KAWASAKI KZ550: Breaking the Mach I Barrier

SEPTEMBER 1980
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CYCLE GUIDE

KAWASAKI KX250 UNI-TRAK
Single Shock, High Voltage

YAMAHA XS650 SPECIAL II
The $2000 American Dream

TO THE GRAND CANYON AND BACK:

HARLEY vs. KAWASAKI

Tour Glide Meets KZ1300 In A Battle Of The Big Rigs

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CYCLE GUIDE

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COVER:
Steve Thompson sat on the shoulders of Paul Dean, editorial Man-Mountain, to take this snapshot of his summer vacation at the Grand Canyon. Camera by Olympus, film by Kodak, Canyon by God.

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CYCLE GUIDE'S CYCLE GUIDE

OFF-ROAD

MAKE & MODEL	ISSUE	ENGINE TYPE	WHEEL TRAVEL, IN. FRONT/REAR	WEIGHT, LBS	HORSEPOWER @ RPM*		GEARS
Can-Am 250 MX-5	Jan. '79	Two-str.	10.8/10.0	218	32.1	8500	5
Can-Am 250 Qualifier III	Feb. '80	Two-str.	9.7/9.8	230	25.2	8000	6
Cam-Am 400 MX-6	June '80	Two-str.	11.5/10.8	233	38.3	6500	5
Honda CR125R	Jan. '80	Two-str.	11.5/10.8	202	20.8	10500	6
Honda CR250R	May '80	Two-str.	11.8/11.0	222	27.5	7000	5
Honda XL185	March '79	Four-str.	7.4/6.75	239	11.2	7500	5
Honda XL250S	Oct. '78	Four-str.	7.8/7.7	262	14.8	8000	5
Honda XR185	March '79	Four-str.	8.0/7.75	221	12.8	10000	6
Honda XR500	May '79	Four-str.	8.5/8.6	273	25.8	6500	5
Husqvarna 125CR-'80	Nov. '79	Two-str.	11.8/11.8	214	18.8	11000	6
Husqvarna 250CR	Dec. '78	Two-str.	11.8/11.8	227	24.3	8500	6
Husqvarna 250WR	Aug. '79	Two-str.	9.5/9.5	238	21.9	6500	6
Kawasaki KLX250	Sept. '79	Four-str.	9.8/10.5	239	15.2	8500	5
Kawasaki KX125 A5	Oct. '79	Two-str.	9.8/10.0	194	20.0	11000	6
Kawasaki KX250 A5	June '79	Two-str.	11.0/10.9	219	27.9	8000	5
Kawasaki KX420	July '80	Two-str.	11.0/11.3	250	34.0	7000	5
Maico 400 MI	April '80	Two-str.	12.3/12.0	233	35.5	7000	5
Maico 450 MI	April '80	Two-str.	12.3/12.0	236	37.0	7000	5
Montesa Cappra 414 VE	Oct. '79	Two-str.	10.9/10.7	236	28.5	6500	4
Suzuki PE175	Aug. '78	Two-str.	8.8/9.4	216	11.2	9000	6
Suzuki RM125T	Dec. '79	Two-str.	11.2/11.7	200	19.8	10500	6
Suzuki RM250N	May '79	Two-str.	11.2/11.8	218	27.1	8000	5
Suzuki RM400N	Sept. '79	Two-str.	11.2/11.8	229	28.1	7500	5
SWM 175 ISDT	Aug. '78	Two-str.	10.0/10.0	220	17.3	9500	6
SWM 250 MX	Nov. '78	Two-str.	10.0/10.0	216	29.5	9000	5
Yamaha Pro-Tec 600	Nov. '79	Four-str.	10.5/10.1	262	46.2	6500	5
Yamaha IT250G	Dec. '79	Two-str.	9.8/9.8	244	27.7	8000	6
Yamaha TT250G	Aug. '80	Four-str.	8.8/7.5	242	17.7	8000	5
Yamaha YZ250G	March '80	Two-str.	11.2/11.6	217	29.6	8000	6
Yamaha YZ465G	July '80	Two-str.	11.2/11.8	228	39.4	7000	5

*Horsepower shown is taken at the rear wheel and does not account for transmission losses between the engine and rear wheel. These results may differ from manufacturer's claims or from results obtained using a different dynamometer.

STREET

MAKE & MODEL	ISSUE	ENGINE TYPE*	QUARTER-MILE, SEC./MPH	TOP SPEED, MPH	WEIGHT, LBS	FUEL CONSUMPTION, MPG	STOPPING DISTANCE FROM 60 MPH, FT.
BMW R80/7	Oct. '78	2C/G	13.47/97.9	104	442	38-46	138
BMW R100T (Dressed)	Aug. '79	2C/G	13.81/92.9	119	521	38-53	142
Ducati Darmah	Sept. '78	90-deg. 2D/F	13.41/97.5	118	487	25-40	120
Dunstall-Suzuki GS1000 CS	July '79	4A/F	11.32/117.0	154	488	37-.5	124
H-D CLE Sidecar	Sept. '79	45-deg. 2D/F	17.60/69.3	91	1036	25-35	181
Honda CB400T Hawk	March '80	2A/F	14.37/88.6	100	391	51-65	139
Honda CX500	Feb. '78	80-deg. 2E/G	13.86/93.4	106	449	28-50	134
Honda CX500 Custom	Aug. '79	80-deg. 2E/G	14.12/92.9	102	468	44-51	146
Honda CB650	Feb. '79	4A/F	13.29/99.9	113	447	37-51	131
Honda CB650 Custom	Dec. '79	4A/F	13.10/99.8	113	447	44-52	131
Honda CB750F	Oct. '79	4A/F	12.41/106.8	128	524	31-52	135
Honda CB750K	Nov. '79	4A/F	12.77/105.8	124	525	38-52	130
Honda CB900C	June '80	4A/G	12.44/107.9	132	588	37-44	155
Honda Interstate	March '80	4C/G	13.40/96.0	121	718	33-45	146
Honda CBX	Dec. '79	6A/F	11.86/114.5	130	555	19-36	145
Kawasaki KZ650 Custom	May '79	4A/F	13.16/100.2	116	483	45-49	125
Kawasaki KZ750	May '80	4A/F	12.50/107.8	127	471	39-50	134
Kawasaki KZ1000	Aug. '80	4A/F	12.12/111.1	130	548	37-45	131
Kawasaki KZ1000 Shaft	Aug. '80	4A/G	12.19/112.2	132	582	32-44	129
Kawasaki Z1-R	April '80	4A/F	12.24/110.6	130	552	35-48	131
Kawasaki KZ1300	March '79	6A/G	11.79/115.7	140	664	31-39	133
Laverda 1200 Jota	Dec. '78	3A/F	12.54/105.0	121	518	29-37	145
Suzuki GS450 ST	May '80	2A/F	14.09/92.5	100	397	55-57	127
Suzuki GS750ET	July '80	4A/F	12.62/105.5	122	523	39-55	130
Suzuki GS850N	March '79	4A/G	12.81/104.0	116	566	35-45	153
Suzuki GS1000E	Aug. '80	4A/F	11.98/113.9	136	528	32-50	137
Suzuki GS1000G	Aug. '80	4A/G	12.34/110.8	139	564	30-51	141
Suzuki GS1000S	July '79	4A/F	12.43/110.0	132	539	39-45	124
Suzuki GS1100ET	April '80	4A/F	11.43/118.3	140	544	37-49	116
Triumph Bonneville	Dec. '78	2A/F	13.41/96.2	110	414	42-49	NA
Triumph Bonneville Special	July '79	2A/F	13.94/96.2	110	411	45-55	175
Yamaha RD400F	June '79	Two-str. 2A/F	14.16/90.2	98	355	30-43	129
Yamaha SR500E	April '78	1B/F	14.98/84.2	92	364	49-58	132
Yamaha XJ650 Maxim I	June '80	4A/G	12.60/107.4	120	453	40-54	128
Yamaha TZ750E	April '79	Two-str. 4A/F	11.62/125.5	180	331	NA	NA
Yamaha XS850LG	Feb. '80	3A/G	13.10/101.7	116	548	42-55	144
Yamaha XS1100SG	Jan. '80	4A/G	11.94/112.6	135	572	42-47	129

*A-Transverse Vertical, B-Vertical, (single-cylinder only), C-Horizontally Opposed, D-Tandem Vee, E-Transverse Vee, /F-Chain Final Drive, /G-Shaft Final Drive, /H-Belt Final Drive

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CYCLE GUIDE (USPS 532-210) is published monthly by Cycle Guide Publications, Inc., 16 South Wesley Avenue, Mt. Morris, Illinois 61054. Editorial executive offices, P.O. Box 6040, 1440 West Walnut Street, Compton, California 90224. Telephone (213) 537-0857. Controlled circulation postage paid at Sparta, Illinois 62286.

EDITORIAL CONTRIBUTIONS: Welcomed by Cycle Guide Publications, Inc., but cannot be considered unless guaranteed exclusive. Cycle Guide cannot be responsible for unsolicited material or damage to same in mails. If material is to be returned, include self-addressed, stamped envelope. Send all contributions to: Cycle Guide, P.O. Box 6040, Compton, California 90224.

ADVERTISING: See SRDS. Send copy and instructions to Advertising, Cycle Guide Publications, Inc., P.O. Box 6040, 1440 West Walnut Street, Compton, California 90224. Telephone (213) 638-6178.

SUBSCRIPTION SERVICE: Forms 3579 and all subscription correspondence should be addressed to Cycle Guide Reader Service, P.O. Box 267, Mount Morris, Illinois 61054.

SUBSCRIPTION RATES: United States: $9.00 one year, $16.00 two years, $21.00 three years. In Canada, add $2.00 per year, all other countries add $3.00 per year. Single copy rate $1.25.

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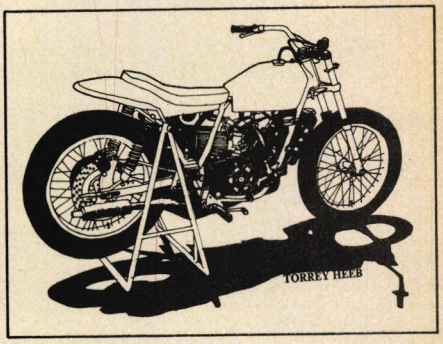

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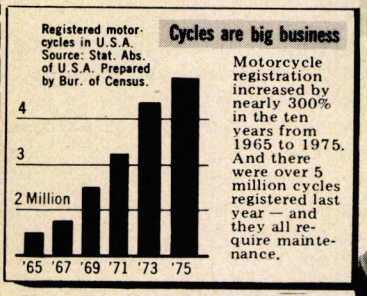
Now YOU Can Be A MOTORCYCLE MECHANIC

LEARN AT HOME IN SPARE TIME WITH NO PREVIOUS EXPERIENCE

Experts show you what to do, how to do it... guide you every step of the way to become a skilled motorcycle mechanic.

If you like to ride a bike for fun . . . learn how to fix it for profit! Can you imagine a better way to earn your living whether you choose to work in a cycle shop for somebody else or decide to start your own cycle repair business. Now, thanks to North American, there's a fast, easy way to get training at home in your spare time. No need to quit school or job. Experts show you step-by-step everything from minor tune-ups to major overhauls.

New Motorcycle Riders Year After Year



Cycles are big business

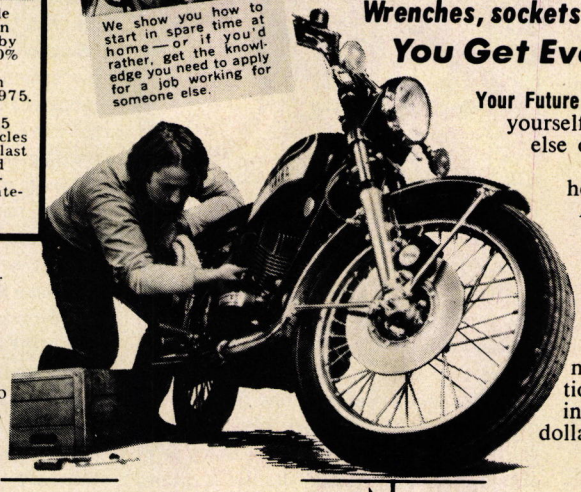
Motorcycle registration increased by nearly 300% in the ten years from 1965 to 1975. And there were over 5 million cycles registered last year — and they all require maintenance.

Work Out of Your Home

We show you how to start in spare time at home — or if you'd rather, get the knowledge you need to apply for a job working for someone else.

Wrenches, sockets, test instruments and more...

You Get Everything for a Fast Start!



Your Future is in Your Own Hands — You can decide for yourself whether you want to work for someone else or get into your own cycle repair business. Start in your spare time repairing cycles at home—or get a job with a motorcycle shop! After you've been a working mechanic, you can decide whether you want to start your own repair business.

You'll Be the Center of Attraction in Your Circle of Friends—Enjoy the admiration of friends and neighbors as they flock around to watch you tear down and tune up all kinds of motorcycles. And just think of the satisfaction in knowing you've got the best performing bike in town. Plus, you can make extra dollars fixing motorcycles for friends, neighbors.

Motorcycle Shops Employ Qualified Mechanics. Has your bike ever been out of action waiting for needed repairs? Some shops don't have enough mechanics to take care of everyone as fast as they like.

Graduation from this course does not insure that you will get a job. To find out how our graduates have done, send for our job placement record.

FIRST FOLD HERE

FIRST FOLD HERE

NO POSTAGE NECESSARY when you mail this ENTIRE Postage-Paid ad

To Mail—Fold ad in following manner:

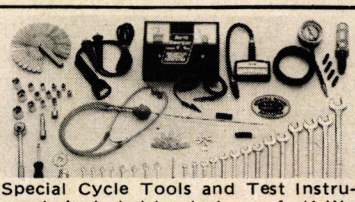
1. Remove entire page—tear or cut on dotted line to left
2. Fold page in half on 1st fold lines
3. Fold page again, on 2nd fold lines
4. Tape or glue the 3 open sides and drop in the mail box today.

SECOND FOLD HERE

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

SENT FREE

Rush FREE color brochure and full information on how I can learn Motorcycle Repair for only a few dollars a month.



Special Cycle Tools and Test Instruments included to start you fast! We teach you how to use wrenches, sockets, impact screwdrivers, timing lights, compression gauges, vacuum gauges, degree wheels, wrench sets and much, much more. These are yours to use during your training . . . and yours to keep in your action packed career as a motorcycle mechanic.

Motorcycle Sales Mean Profits for Repairmen

Cycles are big business . . . and so is fixing them! There are more than 5 million motorcycles registered in the U.S. today. Plus an estimated million more dirt bikes. No wonder there is work for the skilled repairman.

Name_____ Age_____

Address_____

City_____ State_____ Zip_____

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4500 Campus Dr., Dept. EM080, Newport Beach, CA 92660

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Postage will be paid by addressee

NORTH AMERICAN SCHOOL OF MOTORCYCLE REPAIR
4500 Campus Drive, University Plaza
P.O. Box 2820
Newport Beach, California 92660

Editorial

Understanding Project Bikes

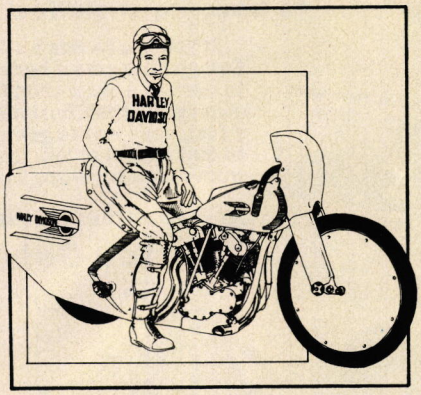
Motorcycles are meant to be modified

• I have a confession to make about the advertisements in motorcycle magazines: I read 'em. I realize it's not hip to admit that commercial messages have any effect upon you in this world where soap companies blare their sordid slogans from every quarter, but I offer no excuses. When it comes to the messages of manufacturers in the motorcycle business, I can't help but immerse myself in the fine print. And it's because these ads—whether they are full page or an inch-square—help me find those bits and pieces that I can bolt to my motorcycle to make it speedier, sleeker and more stylish. So I'm always on the lookout for hardware that will bring my bike closer to my own personal vision of what it should be.

And that's what motorcycle ads and free booklets that you can write away for are all about—project bikes. Usually that label is pinned to a variety of motorcycles that you read about or hear about which serve as catch-alls for a ragtag assortment of aftermarket hardware. Yet the motorcycle that lies in every guy's garage is also a project bike of one sort or another. We all own project bikes. Maybe it's part of the American tradition, or maybe it's just something about motorcyclists in general, but as soon as we plunk down our money for a new scooter and take it home, we start wanking on it, tweaking it and tricking it out. And sometimes we even make the bike better than it was to start with.

There have been a lot of explanations for this phenomenon, of course. Some think it's an effort to make a soulless product of the production line distinctively our own. Others suggest that the habit is the hallmark of any hobbyist. But I think each of us is simply trying to make our motorcycle better. As any plunge into the advertiser's index reveals, what we're buying isn't intended to make our bikes different, it's supposed to make them better. Since bikes are identified so closely with performance, we're encouraged to think of them in those terms. And because a motorcycle is so much smaller, less expensive and less complicated than something like a car or a boat, we have less reason to accept it deferentially from the manufacturer and resist the temptation to modify it. And in my view, that produces thousands of people who can hardly wait to truck a new motorcycle home so they can begin changing it.

Those of us at this magazine yield to the temptation to modify bikes as readily as anyone. Maybe some magazines believe



that you should treat bikes with the same dispassionate attitude seen in lab technicians from Underwriter's Laboratories, but we don't work that way. Sure we recognize that our business is stock motorcycles, but we tend to regard each new test bike that comes through our door as our own, and plans for modifying it in one form or another are soon formulated. We don't have the opportunity to undertake as many projects during the year as should be done, but we can at least complete some of them, or dial in the stockers as close to perfection as possible. Certainly we can never resist flipping through the motorcycle ads for a dose of information about trick hardware.

Our experience in the project bike field also inspires us to urge a little advice on you when it comes to your own personal project bike. After all, there's no reason to suffer the embarrassment of a project bike that fails to perform as advertised.

The first guideline to keep in mind once you take the big step of unholstering your checkbook and your accessory catalogs at the same time is to have a concrete goal in mind, an image of the motorcycle you want to create and the things it will do. A failure of imagination will inevitably lead to a jumbled assortment of unrelated pieces and a motorcycle that looks as if its owner had sold his soul to the devil behind the part's counter. The result is a bike that's more expensive instead of better and answers a question that nobody asked. Most project bikes turn out unsuccessfully precisely because their owners failed to heed this rule.

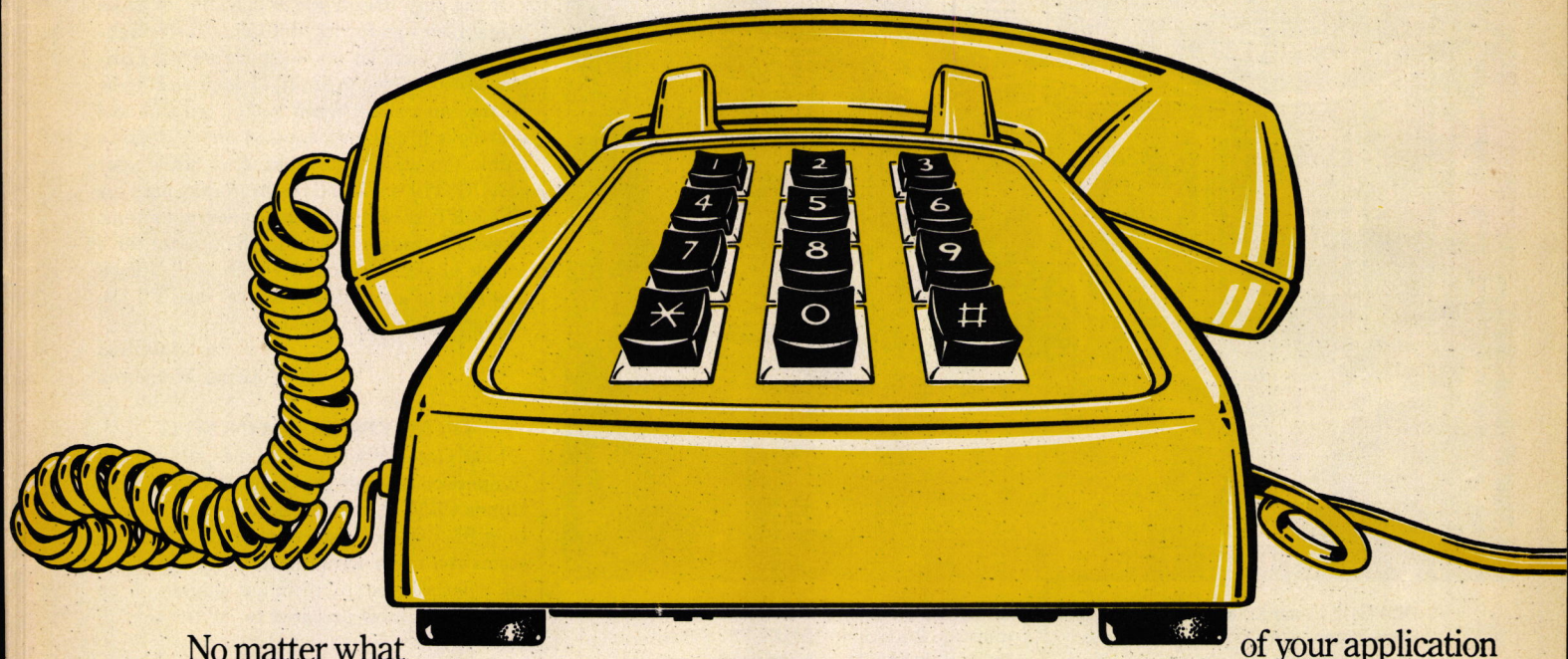
The second theorem of modified motorcycles is to resist the impulse to replace your motorcycle's personality with a new one. You'll have far more luck helping your bike improve its behavior than in establishing a totally new behavior pattern. Certainly it makes little functional or financial sense to make an American custom from a Ducati Darmah or construct a GP bike from a Honda Gold Wing.

That rule of thumb also has a corollary which states that detail modifications usually are more productive than large ones when it comes to preserving your bank balance as well as your sanity. We're all familiar with bozos who attempt to make their bikes as radical as possible in quest of high performance and succeed only in creating a monster that they can barely stand to ride for more than 40 minutes at a time. Bikes are so good these days that radical surgery is rarely called for. As the KX250 demonstrates, making the components work with each other instead of against one another usually is enough to bring out the latent goodness within a bike. And as the Moto-X Fox Honda CR250R tested in last month's magazine demonstrated, it is indeed possible to make a good motorcycle out of a bad one, but the price is extraordinary and the result less satisfactory than simply buying a better bike to begin with. For in many ways, the only thing that can really give you a different bike is the want ads. You're almost always better off amplifying your bike's strong points than in totally reconstructing it from stem to stern.

Keeping these things in mind while you're flipping through the pages of this magazine deciding which free booklets to write for this month could help you to avoid the costly mistakes that are often touted as high-performance project bikes. As long as you control your dreams instead of letting them control you, you shouldn't ever find yourself burdened by a motorcycle with a performance profile that's out of proportion. With luck, this message may even encourage you to undertake your own project bike. There's nothing more frustrating after all than a magazine chock full of hardware that you're too leery of to enjoy. Now maybe you're ready to undertake a little home-built engineering of your own, and be more willing to measure your own project bike against ours.

In the meantime, those of us here who are fascinated by aftermarket manufacturers will continue to formulate project bikes for your edification and amusement. But because we treat each bike that comes through our doors as our own, these projects for the most part will be ones that you can duplicate. For as we've already discussed, we're interested in better bikes, not just expensive ones. —*Michael Jordan*

ONLY YAMAHA STREET BIKES COME WITH PUSH-BUTTON INSURANCE.



No matter what kind of street bike you decide to buy, it's only going to go as fast as you can get insurance.

All the more reason to make sure it's a Yamaha.

Yamaha has teamed up with K&K Insurance Agency Inc., the same company that administers insurance programs for the American Motorcycle Association, Sports Car Club of America, NASCAR and the National Hot Rod Association.

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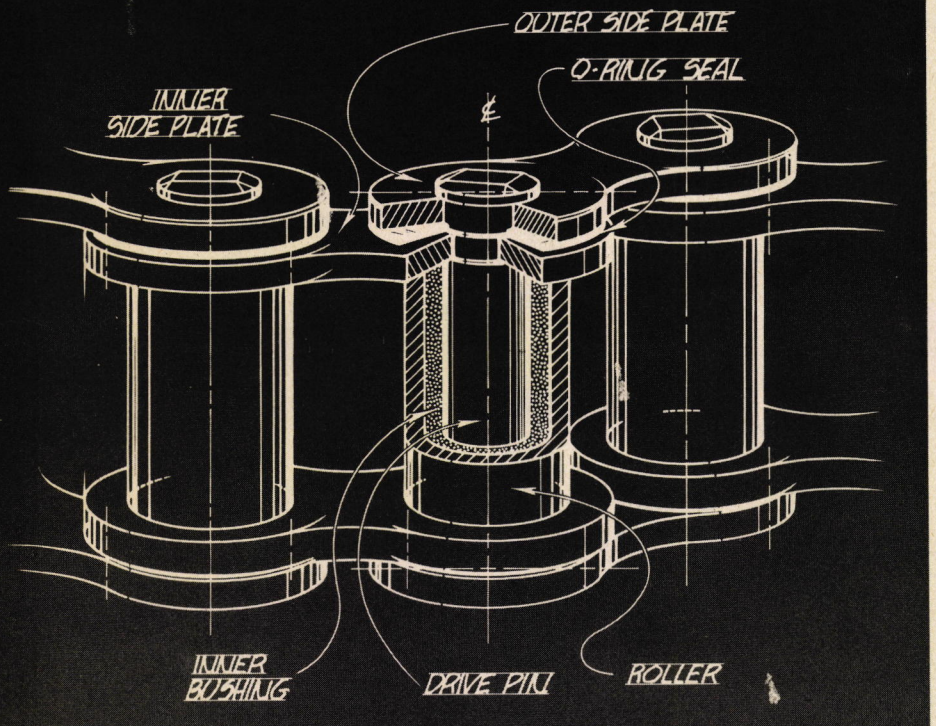

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Letters

Paternity suits,
Steep grades,
Waiting in the lobby

REFUTING THE HYPERHYPE

After reading the amazingly silly nonsense the hyperbikers slung at one another in the June issue I feel that I must deflate their stopwatch egos a little. Hey, all you CBX/GS1100 adversaries and nitpickers, do you guys ever pull your noses out of the bike mags long enough to go for a ride? (I do, however, realize that low-11-second ETs are optically orgasmic.)

If the only reason you bought one of those megabikes was for its stoplight-to-stoplight prowess, please let me know before you commence countdown to liftoff—I don't want to be on the same street when one of you tinhorns overcooks it and gets impaled on a Citation's trunk. I'm easily nauseated. Also, while your CBX/GS1100s will, no doubt, rocket past my GS750ET, so will your insurance premiums. Nope, I'll trade a second in the quarter for a couple of extra greenbacks each year. They'll buy a lot of gas and accessories—and I'll live long enough to enjoy them.

Chris Ossanna
Hopkins, Minnesota

OR MAYBE EXPLAINING IT

Last October your magazine published a comparison between the Ducati 900SS and the Honda CB750F; controversy over your conclusions has raged ever since. After all this time it seems as if a final resolution is in order. Following months of careful technical analysis of the matter, I am now prepared to lay the controversy to rest.

You see, the crux of this difference of opinion lies in the dual questions of power and handling competence. I'll deal with power first. The confusion centers on the transfer of power to the road and the use to which it is then put. Most riders of Harleys, Triumphs, Ducatis and the like characteristically mistake *traction* for *power*. Obviously, in the real world of stoplight races and 55 mph speed limits, it would seem to them that when the pressure is up and their boilers are fully stoked, their big steamers are unbeatable. However, these riders just don't understand that experts like yourselves, blessed with ideal testing conditions, can fully and effectively utilize the new pulse-imploder drives that are now harnessed to the afterburners of the more advanced Japanese machinery. These, coupled with conventional hyperdrive reactors, allow bikes like the CB750F to blip into the warp mode that is unattainable by the older European and American steam-powered machines. So, while the steambikes produce the massive traction that creates the illusion of power—and in limited situations allows them occasionally to outrace the Japanese machine—just let the Honda (or comparable hy-

perbrand) have the time and distance to really crank up its dwarf-star matter accumulators and the coal- and wood-burners don't stand a chance.

As to handling, the older bikes, not having all the complicated machinery, are far more svelte. In contrast to the 11,000-pound bulk of the CB750F, for example, my old Bonneville weighed a mere ton-and-a-half. Even the big Ducati tips the scale at just slightly over two tons. The difference in weight alone makes a significant change in handling. But again, in the hands of true experts such as yourselves the situation alters. It's only the gyroscopic electromagnetic omni-field balancing systems on the new machines that enable them to work so well. And you really can't expect the average rider (who usually has not had the benefit of advanced degrees in fusion mechanics or stress engineering) to be able to master those systems.

So you see, the question is really one of trying to compare apples to watermelons. Each has its pleasures, but any comparison must be faulty.

I hope that this clears up the situation for some of your readers who do not have the kind of technical knowledge that some of us share, and so, may not understand the vast differences between the Japanese and European/American street bikes, which are the products of vastly different design goals.

As a final note, do-it-yourselfers should remember not to enter the reactor chamber of a CB750F without wearing their lead-lined overalls.

Gary Cohn
Lansing, Michigan

Nor should they leave off their foil-lined baseball caps, the danger of which you have so clearly shown—ed.

REPORT CARD

David Dewhurst's May Techspeak "Fact Or Friction" belongs in both engineering and English composition books. Concise, informative. A-plus.

Stuart Speer
Shawnee Mission, Kansas

Does that mean he's going to be excused from the final?—ed.

THE NOISY WHEEL SUPPLIES THE GREASE

I've listened to all the "noise" about motorcycles' loudness and what is being done to make them quieter. What I'd like to ask—and what I haven't seen asked before—is this: What about the big trucks? Who hasn't passed one and nearly been deafened by the noise? There's nothing like the sound of a semi, huh? I'd like to know what gives. How do they get by? Is it that they are really quiet and it's just me? Or maybe that they don't drive in cities so it doesn't matter? Or that they're too old to be regulated? Or just maybe that they have a powerful lobbying force.

Whatever it is, I think we motorcyclists should find out and use the information to our advantage. I certainly have nothing against the trucking industry; it's just that I'd like to get all the help I can in fighting those who make their money by suppressing our form of communication.

Steve Matthews
St. Petersburg, Florida

HIS WHOLE

Your June test of the Honda 900 Custom reads out a bit unjust. I purchased mine in April and am very happy with it after 1200 miles. Instead of looking for its bad points and inspecting the bike piece-by-piece, you might try looking at it as a whole.

First, your 588-pound weight is 17 pounds heavier than my owner's manual says. At 571 pounds it is one pound lighter than a 1978 XS1100 Special and 13 less than a 1976 Gold Wing, putting it in a reasonable category weightwise.

Mileagewise, I recently put on a 300-mile trip, two-up, mind you, and averaged 52.5 mpg. Not bad, huh?

It corners easily at 55–60 mph, and I do not find the bike at all "dinosaur-like." Also, no one has disliked the styling, even though you seem to think "a committee designed it." The bike is comfortable, in style, rides silky smooth in low range and still has the guts to stay with the pack leaders.

Granted, 10 speeds are a little much, as a high sixth gear would still have let it cruise, but all in all, it's a fast-cruising, high-mileage tour machine.

Alan Plonsky
Sharon, Massachusetts

Weightwise, perhaps your owner's manual never put the Custom on a scale—ed.

A MATTER OF PATERNITY

I am writing in response to your article in the May issue about the so-called "new" Kawasaki KZ750. I do not see how you can say that the 750 was born from the 650. In Japan I had a KZ750 which looked just like the KZ900 except for engine displacement. Suzuki's introduction of the GS750 in 1977 gave the Kawasaki owners some real competition. That's why when I returned to the states I purchased a GS750. The last KZ750 I saw was a 1979 model and it was very eye-pleasing.

Mike Persichetty
Santa Clara, California

Apparently also somewhat distracting. The new 750's link to the 650 is simple. The KZ750's engine was evolved from the 650, not the 900—ed.

OBVIOUSLY BOUGHT OFF

In response to Mr. Dewhurst's comments on the GS750ET, we'd like to say that we bet he even hates his mother. Let's hear more from Dain Gingerelli.

Timothy Foley
Ethan Crighton
Paul Beauchaine
Charlie Helmich
Kevin Porter
Attleboro, Massachusetts

Okay, just exactly how much did Dain promise you for this letter?—ed. •

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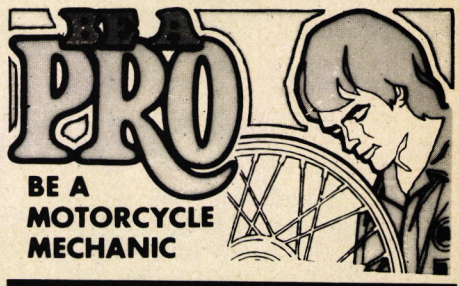

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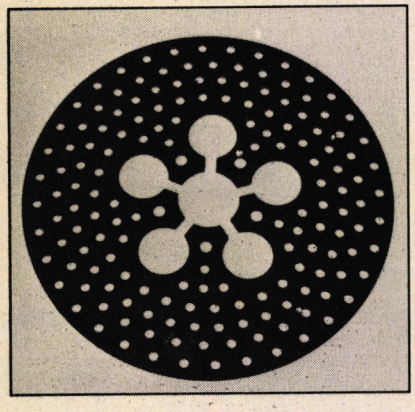
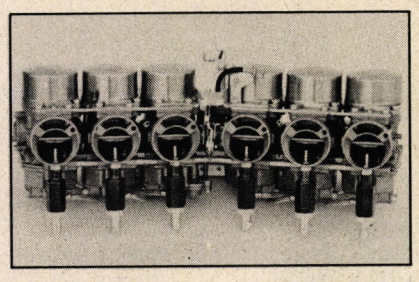
New views from the toy store

Hole-ee Discs: If you've been looking for drilled disc brakes, you might be interested in these Hole-ee discs from Mark Zero. There are 108 holes on each disc, plus nine "anti-distortion" slots designed to provide heat dissipation in order to prevent warping. Mark Zero claims the holes stop hydroplaning and improve front-wheel handling through lower unsprung weight because each disc is 50 percent lighter than factory replacements. The Hole-ee disc fits most motorcycles, including Harley-Davidsons. To fill in the holes in this information, contact Mark Zero at 16702 Francisquito, Dept. CG, Valinda, California 91744.



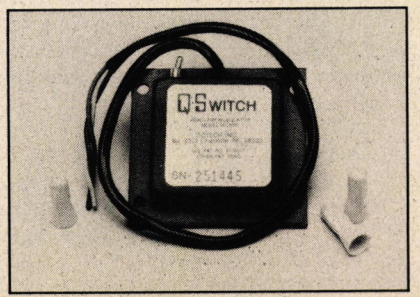


Racing Purposes Only: Superbike racers might be interested in R.P.O.'s Third Fuel System. Designed to aid carburetors with pressed-in mainjets, the R.P.O. F3 module is claimed to supply the engine's fuel requirements via a demand-flow system. The F3 might prove helpful if you're modifying a new-model machine with a header system that requires compensation in the factory fuel-delivery system. Once installed, R.P.O. claims the F3 system allows quick metering changes without removing the carbs from your motorcycle. Adapters for fitting the F3 to any two- or four-stroke motorcycle are available from R.P.O. Units to fit turbocharged bikes can be purchased under part number F3T. For more information contact R.P.O. at 4431 Enterprise Street, Dept. CG, Fremont, California 94538. If you need it fast, call (415) 656-8275.

Dirt Bike Cover Ups: For MXers and enduro fans who want to protect their bikes more and clean them less, the Tex-All Company has just released covers made to fit dirt bikes. The Ga-Zee-Bo dirt bike cover is made of weather-resistant woven polyester undercoated with urethane for waterproofing; an inner layer of aluminized fabric protects the cover from a hot motor or exhaust pipe. You can cover your bike in one of five team colors/names: Yamaha, Suzuki, Honda, Husqvarna and the black-and-red Ga-Zee-Bo emblem on silver fabric. When you're riding your bike you can store the cover in a pouch that's also provided. For more information, contact the Tex-All Company, 14001 N. McKinley Road, P.O. Box 3038, Dept. CG, Montrose, Michigan 48457. Or call (800) 521-7916.

O'Neal's Sweatshirt: When hot summer days turn to cool summer nights, or in anticipation of the inevitable coming of winter, a hooded sweatshirt from O'Neal Distributing, Inc. could come in handy for some added warmth. These sweatshirts are made of 50 percent acrylic/50 percent cotton blend. The folks at O'Neal say these sweatshirts come in an array of colors and in all sizes (including childrens'). To obtain your own sweatshirt, just warm up to any O'Neal dealer. If his supply has dwindled, send $16.95, plus $1.00 for shipping and handling, to O'Neal Distributing, Inc. at 9555 Owensmouth Avenue, Dept. CG, Chatsworth, California 91311. Or heat up the phones by dialing (213) 998-1049.

Twinkle Twinkle: You should be concerned about how others see you. Especially drivers. To help increase your visibility, Rocky Cycle is marketing the Q-Switch, an electronic motorcycle headlamp modulator for 12-volt, negative-ground headlamps, including quartz-halogen units. The Q-Switch causes the high-beam element to pulsate from bright to dim at a rate of four pulses per second. This light movement is claimed to draw the attention of other drivers, thus increasing your conspicuity. Other claimed benefits of the Q-Switch are extended headlight and battery life. Suggested retail price of the unit is $63.95. For more information, contact any Rocky Cycle dealer or write to Rocky Cycle Co., Inc. at 1250 Elko Drive, Dept. CG, Sunnyvale, California 94086. Or call (408) 734-3750.



The Phantom's Freebie: It's no figment of your imagination that the folks at Phantom Rider will send you their latest catalog for absolutely nothing. The Wholesale Catalog and Buyers Guide offers product information and prices on tires, helmets, exhaust systems, fairings, riding attire and other accessories. Touring, off-road and competition riders can select these mail-order accessories for everything from 50cc minibikes to 1300cc behemoths; this includes a selection of national-brand products, plus products bearing Phantom Rider's own brand. Phantom Rider accepts most major credit cards and also accepts orders through a toll-free telephone number. For your copy of the latest 80-page catalog from the Phantom, write to 3001 Red Hill Avenue, Dept. CG, Costa Mesa, California 92626.

Thompson At Large

Desert Madness

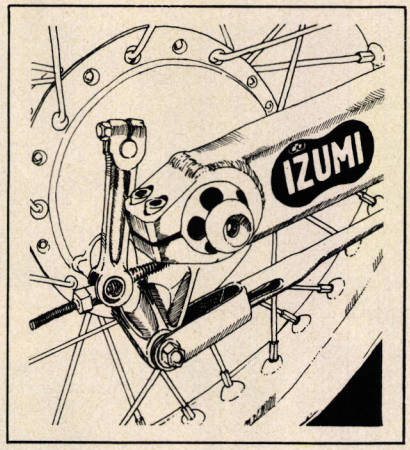
Seen the new DOHC Ford hyperbike?

• Out in the middle of the Painted Desert, miles from the nearest human habitation, a small jumble of rocks stands next to the lonely road that ties together both ends of the horizon. The rocks look like some cosmic dumptruck backed up to the road and piled them out to spill almost up to the shimmering-hot asphalt. One, I noticed as we droned at 60 mph across the frying-pan world of the Southwest, had fallen so that a nearly flat side faced westward along the road. I could see it sitting slightly askew there, only feet from the left side of the road, as the KZ1300 ate up the empty highway. At about 100 yards, I could see that something was written on it. In the dead landscape, it drew my attention like a magnet. I even forgot the awful heat pouring back on my legs from the big Six as we approached the rock.

BOMB IRAN, it said. I read it clearly at 50 yards, a semi-tidy burst of Yankee outrage vented through a can of brown spray paint on an innocent little stone in the middle of nowhere. Used to the glut of equally outraged bumper stickers ("Kiss My Ayatollah, Khomeini") all over the country, I almost dismissed the forlorn gesture. And then I happened to glance in the mirror at the stereo headlights of Paul Deans's H-D Tour Glide, the bike we were comparing with the Kawasaki I was sitting on and sweating behind on this 1200-mile jaunt. And then, because at that stage of the test I was still inclined to dismiss the FLT as a ridiculous figment of some hallucinating engineer's imagination, it occurred to me that the pathetic little rock ought just as well to say something else entirely. Something just as hopeless, as filled with fury and indignation and futility.

BUY AMERICAN, it seemed to me, would be just as pointless. The effortlessly smooth engine of the Kawasaki added a punctuation mark as I opened up the throttle. This was 1980, after all. Chrysler needed a government grant to keep its doors open, kids in Torrance, California grew up thinking that Toyotas were American cars and that the FLT back there was nothing more than a cruel hoax, a reminder of the glory that once so long ago was American engineering.

Well, the desert does funny things to a man's mind. Four days later the FLT wasn't such a joke and BUY AMERICAN had been bothering me for days, along with the Chrysler tragedy, and, oddly, the flood of mail we received when we built the Harley



for Harley Haters, *Highway 61*. Somewhere around Barstow, it all fell into place. (You get a lot of thinking done in the desert.)

First, people in this country really would buy something American if it were competitive. This applies equally to TV sets and motorcycles, and although you may find it self-evident, you should be aware that there are a lot of self-styled sophisticates in Detroit who have convinced themselves that the import buyer votes with his wallet in the Toyota or Kawasaki showroom not because the product is better but because of obscure and mysterious "social forces." There is more than a hint, in conversations with these people, that those forces are closely linked to a certain ex-President's "sinister" and somewhat imaginary sources.

Second, it only needed a further three hours of joshua trees and sand to conclude that in order to give all the transportation consumers of America a real choice, the giants of the automotive industry—Ford, General Motors, and to diminished degree, Chrysler and American Motors—will have to restructure their corporate thinking a lot. Already diversified into as many areas as the Sherman Anti-Trust Act will allow and the Supreme Court uphold, the Big Four can diversify once more and begin to turn all those sales curves up again—for motorcyclists as well as automobilists.

Here's how. In Detroit and all the mini-Detroits created by the car industry across Industrial America, the problem is excess manpower and excess plant and manufacturing capacity. This excess is created by all of us not buying American, and it's the hope of the biggies that when we do—or *if* we do, to be more accurate—that Happy Times will come again and the unused capacity can be cranked back up to make jobs and a whole bunch of Chevys.

But what if Toyota buyers *stay* Toyota buyers? Rather than penalize the Japanese for building what the market wants, I suggest this plan:

1/One of the Big Four—Ford, say—buys licensing rights to one of Japan's Big Four's best-selling bikes—Kawasaki's KZ1000, say. Not an attractive deal for the Big K on the surface, but when the alternatives loom—protectionism and trade war—a government-massaged deal could be concluded.

2/Ford also buys rights to a successful moped design, with the same reasons and results.

3/In one or more of those idle factories, Ford now spends government-assisted bucks to install KZ1000-making machinery and train automotive LTD assemblers to become two-wheel LTD assemblers. Production starts, modestly at first. Through interlocking Kawa/Ford deals, parts and service arrangements are hammered out that allow a guy to buy a Ford F1000 and be assured of parts and service that work. (No small task, this, but what necessity mothers usually blossoms.)

4/From this limited lineup—*when* it's successful, of course—will ultimately spring a completely American line of two-wheeled vehicles, enabling Americans to once again contemplate Buying American. The rest of the Big Four, desperate for a part of the glory and money, trample each other to emulate ground-breaking Ford Motor Corporation. By 1990, imports once again account for less than 15 percent of car sales and only 50 percent of bike sales.

Don't tell me about the problems. I know all of them. I know about the not-invented-here syndrome in Detroit and points West. I know about market penetration problems, about tight money and about risky ventures undertaken in a recession. But I also know about factories: Factories are big buildings dedicated to making things. When they don't make things, people are out of work and bad things happen to society. I know it, you know it. And I also know that if BUY AMERICAN is ever going to be anything more than a two-bit piece of rhetoric, desperate decisions will have to be made by the people with the power to change things.

That such people exist or are willing to undertake new ventures is, of course, the wackiest part of my idea. But I told you already that the desert does funny things to a man's mind. —*Steve Thompson*

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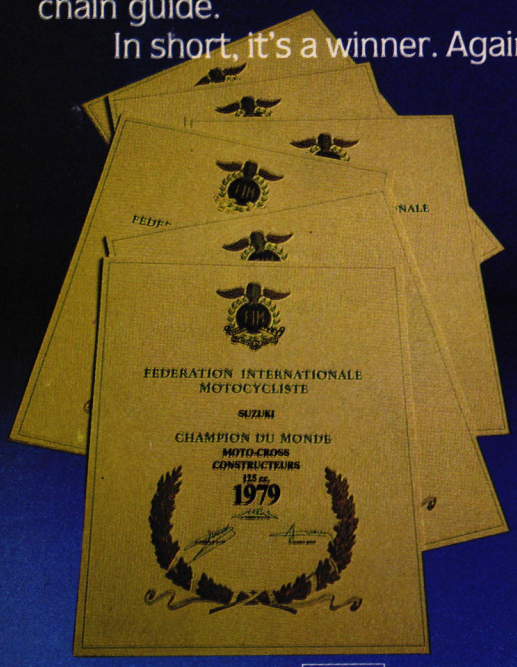
Also trick: Full floating rear brake is now operated with a straight cable for better braking control. And this year's bigger chain now rolls through a new works roller-type chain guide.

In short, it's a winner. Again.



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Techspeak

Two-Stroke Asymmetrics

Why two-stroke valves are an open and shut case

• Valve may be a word you associate with four-stroke motors, but it is just as relevant in two-stroke terminology. They may not have the complex mechanically operated poppet valves of the thumper, but two-strokes have valves all the same.

Two-strokes actually have three types of valve, and the piston is the one that every design shares. Although not really thought of as a valve, the piston does perform the duties of opening and closing ports cut in the cylinder wall. As the piston slides up and down the barrel it simply uncovers the three main ports—inlet, transfer and exhaust, allowing gases to pass in either direction.

The basic simplicity of the piston as a valve works against it, however, in terms of sheer efficiency. Because it is simply rotating on a crank the piston can only produce symmetrical timing. That is to say that the point at which the piston opens a port on the down stroke is also the same point at which it closes it on the upstroke. Now, that is not terribly bad in a mildly tuned motor, but when horsepower is the main goal it can cause a problem.

You see, to produce more power, more fuel must be squeezed into the engine with each induction stroke. And that means leaving the inlet port open as long as possible to prolong fuel flow from the carburetor. You can alter the timing of induction in a piston-port engine only by raising the height of the induction port itself. In this way, the port stays open longer—but it also closes later. And that causes problems.

As the piston strokes upward and the lower piston skirt uncovers the inlet port, a partial vacuum forms in the crankcase. Fuel is drawn from the carburetor to fill the vacuum. But as the piston descends, the crankcase becomes a high-pressure area. And eventually the pressure reverses the incoming fuel mixture and blows it back through the carburetor. Ideally, the induction port should close at the instant the flow of the fuel mixture begins to reverse, but with symmetrical port timing you can maximize induction only so far before you begin wasting gas through blowback.

This was the dilemma that faced early two-stroke engine designers. Their attempts to find a solution resulted first in the rotary valve, which performs induction duties independently of the piston. Basically, an induction port is cast into the side of the crankcase and a metal disc mounted on the crank controls the opening and closing of the port. And unlike a piston-controlled port, a rotary valve isn't restricted to symmetrical timing. Since the timing is governed by the cutaway of the disc, all sorts of timing variables are possible.

The rotary valve has its limitations, too, however. Space is the problem. The necessary induction ports outboard of the engine crankcase can be easily accommodated by a twin-cylinder engine, but triples and fours are another problem entirely. Also, since most single-cylinder engines are used in dirt bikes where narrowness is a virtue, rotary valves also prove difficult to live with.

The search for variable two-stroke timing seemed to be at a dead end until the reed valve finally emerged. Here at last was a simple device to control the induction port that required no mechanical complication—unlike the rotary valve—and delivered asymmetrical induction timing—unlike the piston-controlled port.

A reed valve is nothing more than one or more pieces of flexible material, usually steel or a laminated composite of epoxy plastic and fiberglass, mounted in the inlet port downstream of the carburetor. One end of the reed petal is fixed to a metal stop, while the rest is free to flex toward the cylinder. In flexing, the petal uncovers the inlet port it normally obstructs. The reed cannot bend back toward the carburetor, however.

Just as with the piston-port engine, the fuel mixture is drawn into the crankcase by a vacuum, but this time it must bend the reed petal off its seat. And when the crankcase becomes a high-pressure area the petal is forced back against its seat, sealing the induction port. So with the reed valve, two-stroke engine designers finally found a valve that could respond to the variable demands of the two-stroke engine. Whenever the engine needs fuel, the reed opens. When the crankcase cannot inhale any more, the reed closes. The asymmetrical timing that boosts horsepower can be effectively produced by varying the size of the induction port and the stiffness of the reed petal.

Such are the merits of the reed valve that it can be used in all sorts of different applications, from roadracers to trials bikes. Yamaha has begun to experiment with electronically and mechanically operated devices to vary the size of the exhaust port with engine rpm, but for the time being, the simplicity and efficiency of the reed makes it the choice of designers looking for the right valve for their two-stroke engine.

—David Dewhurst

GUIDE LINES

Cycle Guide's Monthly Chronicle of Scoops, Tips, Rumors and Hard Facts

BY LARRY WORKS

COMING SOON

• This month's lead bike hails from France, land of **sparkling water** and flamboyant bodywork. The *Speciale Martin* CBX started out as a stock Honda, but not a great deal of the original has gone untouched by the conversion. Starting at the front, the **Martin** kit replaced the OEM fork with a Martin bit running 42mm stanchion tubes. **Brembo** discs and calipers slid in place of the Honda stoppers. At the rear, the cantilever suspension relies on a de Carbon unit to calm the impulses from the pavement, while a single Brembo disc does anchor chores. In between lies a nickel-plated tubular steel frame that uses the engine as a stressed member.

But it probably wasn't the frame that caught your eye; it was the glass. And on the Martin CBX kit, the glass is **functional.** First, the monocoque seat/tank holds more than five gallons of fuel. Second, it makes for light weight—in the case of the CBX, the Martin's dry **weight** is claimed to be more than 80 pounds **lighter** than the stocker. Of course, that's after you figure in the twin halogen headlamps, Dunlop K81 tires and the pair of three-into-one exhaust pipes. All told, Martin has paid a lot of attention to the CBX; but it isn't exclusive to that bike. There are also Martin kits for the Z1-R, GS1000 and the CB900.

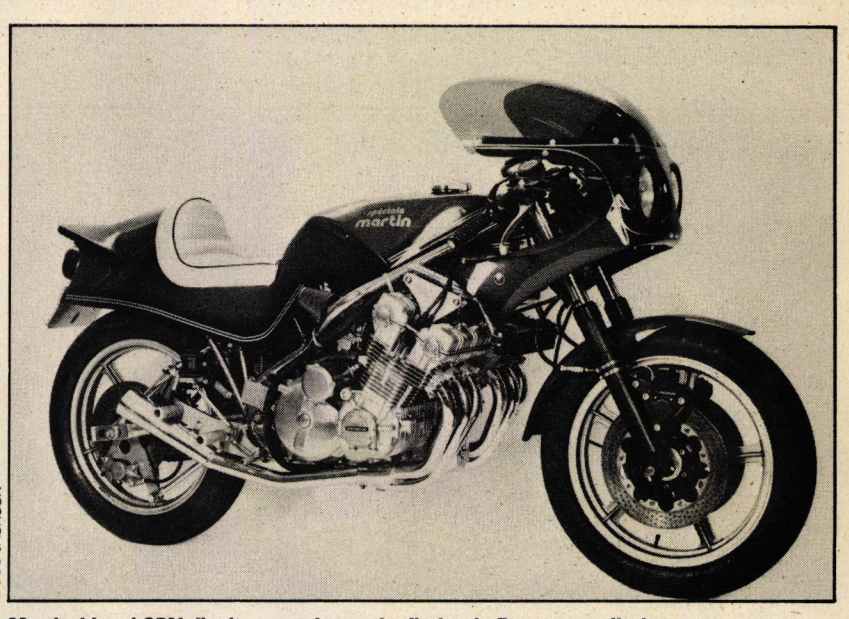
• By now you've probably heard tell of **Gilera's** controversial **twin-cylinder** 125 works **motocrosser.** What you haven't heard much about is the single-cylinder production model that got lost in the shuffle. While it's not as **flashy** as its twin-cylinder twin, the single is no slug, by any means. The 125 Cross actually displaces 122.7cc, runs a 12:1 compression ratio and spins out a claimed 28 horsepower through the six-speed gearbox, assisted by the **DANSI** electronic ignition and a 36mm Dell'Orto carb. Marzocchi handles the suspension tasks, offering up about 10 inches of wheel travel at the front and 9.8 at the rear. When the 1.8-gallon fuel tank runs dry, Gilera's understudy 125 weighs in at 203 pounds.

• When you want the inside story you head for an expert, right? Straight to the horse's mouth. That could prove a little confusing if you're looking into **rider training,** since one of the latest equine mouths belongs to a dog. Right. If you're so inclined, you can now get a dose of rider education from Walt Disney's **Goofy,** who is spreading the word through a **filmstrip** series called "Goofy Over Motorcycles."

• And if you were looking around for the straight deal on **touring,** you'd also check for an expert—or you might go back to **school.** And the school you'd probably go to is the University of New Mexico at Albuquerque, which is offering a class on motorcycle touring. The lecture class is taught by Marsha and Lawrence **Zamzok** (Cycle Guide November '78), and according to the class description you'll learn everything from what to look for when you're buying a touring bike to how to ride it.

• Roadracing is really no different. When you want to know the **inside line,** sometimes you have to go back to school. And for riders who want to know how to notch up from the street to

Continued



DOUG JACKSON

Martin-kitted CBX displays good taste in distinctly European tailoring

The clear link with endurance racing is more than skin deep.

DOUG JACKSON

Gilera's older, slower, more conventional 125 motocrosser comes out of the closet

With the twin's single-cylinder twin, it's an obvious case of sibling rivalry.

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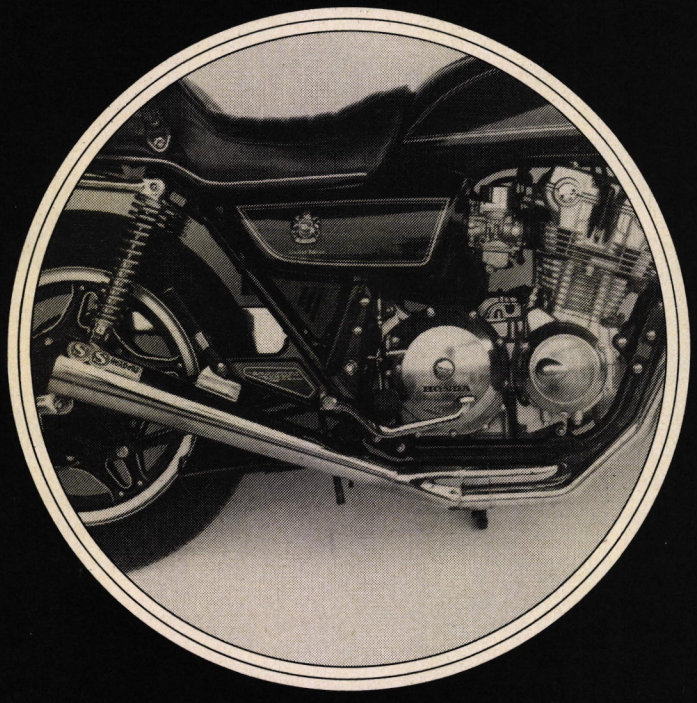

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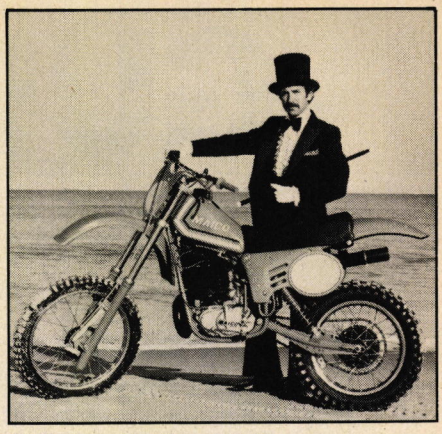


Vic Krause, Mr. Know-It-All

Posing with a bright red teaching aid.

the **roadrace** track, the California Superbike School seems like the place to start. What you get for your $110 is more than a hot classroom and a professor with chalk on his coat; you get the use of roadrace leathers, a full-coverage helmet and all protective gear, partial medical insurance, a race-tuned and modified KZ550 and 20 laps of controlled instruction around the school's lovely **campus**—Southern California's Riverside International Raceway.

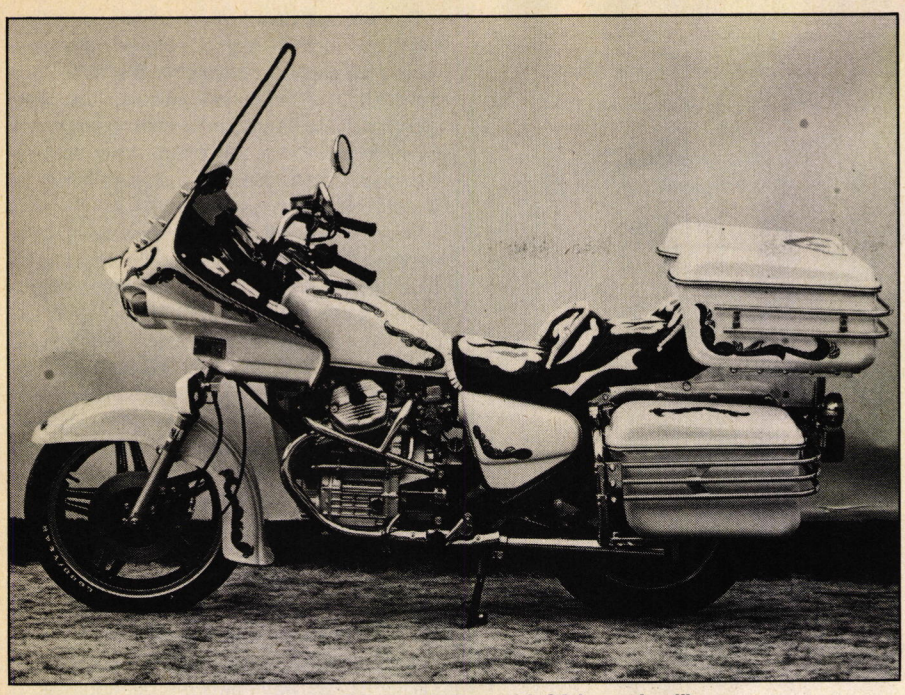
• The expert theory also holds true when you want to learn the secrets of how to make your bike go fast. In this case, the expert is Vic Krause, alias Mr. **Know-It-All.** Krause is holding one-day seminars on some of the deeper aspects of **tuning** racing machinery. His present text is bright red—**Maico** red, to be exact—though other bikes will be covered later on in the series. If classrooms seem a bit too confining, Krause even has the correspondence-school aspects covered. Transcripts of the lectures are also available. And the best part is that to get into Krause's **lectures** you don't have to wait in some long line behind the Student Union to sign up. Just pick up the telephone and dial (312) 344-2233.

• Now that your performance horizons have been expanded to include riding and tuning skills, you'll need some way to **quantify** all that Fast. It's easy. Just find a mistake in any current Clymer manual. Send in your correction, trick or simpler way to perform some mechanical surgery and you're well on your way. When your tip gets used, Clymer Publications will send you a **Clymer Timer** Texas Instruments stopwatch for your efforts.

• Street types will be interested to know that a pair of new **K81 Mark II** tires was just announced by **Dunlop.** Tires in 130/90H-17 and 120/80 H-18 are now available, in both standard and **soft-compound** versions.

• So much for **tires** you can get right now. For the ones you won't be able to pick up for a while, desert **guayule** might figure into the picture. Research has recently shown that milking the guayule provides the basis for a **natural rubber** with properties surpassing those of synthetics—and **petroleum** isn't figured into the guayule's rubber-making process.

• But on the other end of the scale, that of the synthetics, there's also been a **break-**



1980 Custom Dressers Aspencade Special, replete with 24-karat detailing

A $6500 rolling monument to bolt-on character.

through. It comes in the form of Bel-Ray's new **GK-1**, an additive that makes it easier to **mix oil** with synthetic fuels. And taking it to the extreme, GK-1 even eases the mixing of synthetic oils with equally **synthetic** fuels.

• Maybe you think $2 doesn't buy much anymore. Maybe you're wrong. This year, your two bucks will net you one of **Kawasaki's** wishbooks, with more than 100 **pages** of equipment, chromed things and **accessories** to delight the eye and trigger the imagination.

• And if it's chrome and accessories you thirst for, show up at this year's **Aspencade.** Ride in to the event on something and you stand a chance of leaving on a Honda CX500 **Custom** that's been tailored for the occasion by Custom Dressers. What makes the bike special isn't just that it's being given away to promote the event, though. You'll probably not see another bike like the Custom Dressers Custom anywhere. To start with, the pearl white paint job has been highlighted with **24-karat** gold inlay on the tank, side covers, valenced front fender and the Free-Flow Fairing. It also shows up on the Slimline saddlebags. Floorboards have been added, as have S&W air shocks, full touring luggage and a CB/AM/FM eight-track stereo. Custom upholstery rounds out the mid-size tourer. If the chance of riding off on all of that isn't enough to get you to the early-**October** Aspencade, you probably didn't want to go in the first place.

FEDERAL CASES

• The lead item this month only goes to show that if you lead a horse to water enough times, he'll eventually take a drink. The federal **government** is showing signs of finally **recognizing** the fuel-efficient **virtues** of motorcycles. According to recent EPA and Federal Highway Administration figures, the nation's **motorcycles** average about 50 mpg, while the four-wheel contingent posts 13.7 mpg.

• Not bad, you say. The government now understands that motorcycles are about four times as fuel-efficient as cars. But that recognition is a **double-edged** sword: If motorcycles only use about one-fourth of the fuel that cars burn, that's all they'll get.

Back in the dark ages of 1978, when the Department of Energy had less reliable statistics on motorcycles, it figured that they should get 10 percent of the allotment that cars were slated for in a proposed Standby **Rationing** Plan. Three increases and considerable pressure from the AMA later, the motorcycle allotment is now **25 percent** of the car dole. This latest version of the rationing plan, which President Carter recently passed over to Congress, is expected to pass in its present form. The rationing system could be set in motion if a 20 percent fuel shortage were present—or even expected to last—for a period of 30 days.

• Some states, too, have come to grips with the **mileage difference** between bikes and cars. As evidence of California's recent effort to promote motorcycles, that state's non-metered lanes on freeway on-ramps will be opened to bikers on selected routes. If the 90-day trial period works out, other access lanes will be cleared for two-wheelers. Not **earth-shattering,** certainly, but the thinking behind it just might be. The California DOT figured that since rider-only motorcycles consume no more fuel than cars hauling a driver and passenger, they should be accorded the same **rights.**

• Here's something to ponder as you view your next **traffic jam:** If even one-fifth of all those cars were motorcycles, there probably wouldn't be any snarl-up. DOT figures show that a motorcycle uses only about **10 square feet** of road space, compared to the 100 square feet taken up by a car.

Continued

TONY'S TIRE TIPS

Tony Mills, Manager
Motorcycle Tire
Development,
Dunlop Tire Company

Tip no. 5

MOUNTING AND BALANCING

Q. What is the importance of directional arrows and balance dots?

A. Both directional arrows and balance dots are put on the tire to serve as guidelines for mounting. When a tire has directional arrows, check to see if the arrows refer to the front or rear position. The tire should be mounted so that the arrows point in the same direction as the rotation of the tire. This will provide optimum performance. The balance dots, which indicate the lightest spot on the tire, should be mounted at the valve, which is the heaviest spot on the rim. After aligning the balance dot with the valve, the tire can then be more accurately balanced by adding weights to the wheel.

All Dunlop tires are carefully inspected and checked for balance before leaving the factory. If in balancing your tires, you find you need more than four ounces of balance weights, I suggest you let a retailer of Dunlop motorcycle tires inspect the tire, tube and wheel assembly.

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CUSTOM BIKE magazine, August 1980

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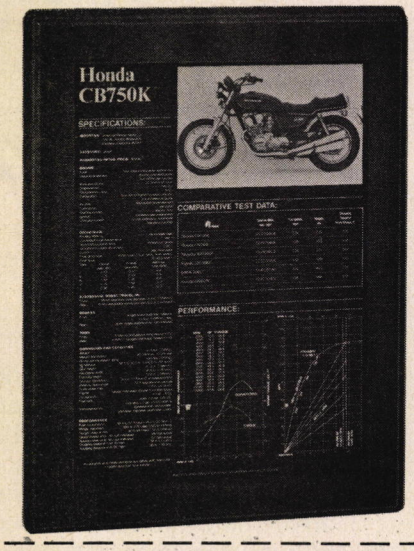

cycle guide

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GUIDE LINES *Continued*

• That's a hell of a note on **rider** education, but there are some high points. For instance, a recent bill pushed through the **Florida** State Senate has put the Sunshine State in the select group of those offering rider training programs. Every location that now offers driver **education** in that state must now make provisions for motorcycle and moped training.

• The ever-present **helmet** issue came up recently in **South Carolina,** in the form of a bill that made its way into law. When that state's governor put his mark on HB 2514, helmet use became **voluntary** for residents over age 20.

• Further up the East Coast, AB 9975 recently cleared the **New York** State Assembly, which should be welcome news to off-road riders there. If the state senate gives the nod to a similar bill, New Yorkers soon could have a statewide system of **motorcycle trails.**

• In some not-so-good news, a resolution in the **California** Finance Committee has made that state an **endangered species.** California is now the only state whose freeways aren't bombarded by microwaves from police traffic-control devices. If the resolution passes, the California Highway Patrol will get approval for the purchase of **radar** equipment.

• All that radar could have a significant effect on California traffic, since that state is now the **"fastest"** in a recent study by the Highway Users Federation. The study showed that 71.7 percent of the **motorists** there exceed the national speed limit. On the other end of the scale, Maryland took "slowest" honors, with less than 30 percent of its motorists beating the double nickel.

• In another California item, AB 3167 would extend by one year that state's deadline for meeting an **80-decibel** limit on new motorcycles. The deadline for implementing the noise **restriction** would then be January **1982,** which coincides with the start of a federal EPA limit. If AB 3167 fails, it will make for California-only motorcycles in 1981, a move that can only jack up the price of a new bike unnecessarily.

HARD CASH

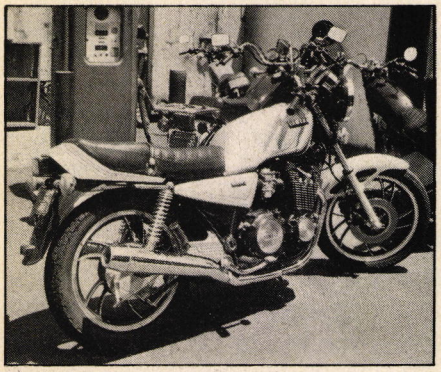
• Once more, this column leads off with an item about **interest rates.** This time, however, it looks as if there's some **positive** news. Talk of effort at the federal level to cut interest rates for secured loans in an attempt to bail out the sagging American auto industry should have some significant trickledown **benefits** for motorcyclists. If programs are set into motion to ease credit restraints for cars, it should also be far easier to get a motorcycle loan.

• Here's a financial tidbit on the **helmet** controversy that you might as well memorize now; you'll probably be seeing it in government reports for years to come. A recent Pennsylvania State University study concluded that more than **$61 million** would be saved annually if all U.S motorcyclists wore helmets when riding.

RUMORS

• With the new model year fast approaching the rumor mill has been working overtime lately. For instance, the question of whether or not **Yamaha** will include the Euro-styled **650**

Four in its U.S. 1981 line has been getting plenty of attention. Several sources insist that the 650 is already slated for the American market. In fact, they point out, the bike has already been **seen in** Southern **California.** Perhaps. But Yamaha spokesmen have countered with the statement that the 650 was only Stateside for "tire testing," and that its presence guarantees nothing. They cryptically add that if a **non-Special** XJ650 is marketed in the U.S. for 1981, it will not be **"identical"** to the Eurobike.



PHOTOGRAPHY: PATRICK BEHAR

Euro 650 Yamaha in U.S. for testing

Similar but not "identical" for 1981?

• In a possibly linked tidbit, a 400cc version of the **650 Four** is reportedly being **tested** for Japanese and European sale. The interesting part of this story is that the bike is allegedly not just a sleeved-down 650. With this rumorbike, the 650's shaft drive has given way to a **chain.**

• If all this talk of **Eurobikes** that could come to the U.S. dazzles you, so much the better. According to one report, the liquid-cooled **RD350**—still disputed for possible U.S. marketing—turned a top speed of **127 mph** during testing on a Japanese track.

• In another RD-related item, here is a story of a bike that you probably won't see. Ever. Inside sources claim that a liquid-cooled monoshock **RD440** was being tested for the U.S market but fell to the Shredder instead.

• But on to happier tales. Other talk from the Tuning Fork factory suggests that the success of the **TT/XT250s** could lead to **350cc** versions of both bikes.

• On another positive note, leaks from the inside report that **Yamaha** has listened carefully to all the clamour for an **IT465** and will introduce the model in its 1981 lineup.

• And if you can believe what's being said about **Gilera's** 125cc twin-cylinder motocrosser, you might see something in the way of a little competition from **Yamaha** in the near future. Something, say, like an **in-line** water-cooled two-stroke **twin.**

• Keeping with the same **water-cooled** theme, a variety of sources insist that for 1981 Derbi will have considerable competition in the line of water-cooled production motocrossers.

• For the roadracier among you there's also a bevy of news. For one, **Kawasaki** is said to be concentrating on a **belt-drive** 250cc **roadracer.**

Continued

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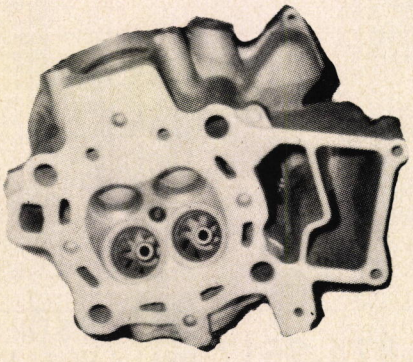
Sekon International has found that the best mixing procedure is to swirl the air-fuel mixture partially in different directions. The Swarup, which was introduced to the U.S. market several months ago, utilizes this procedure by generating swirls in the inlet manifold.

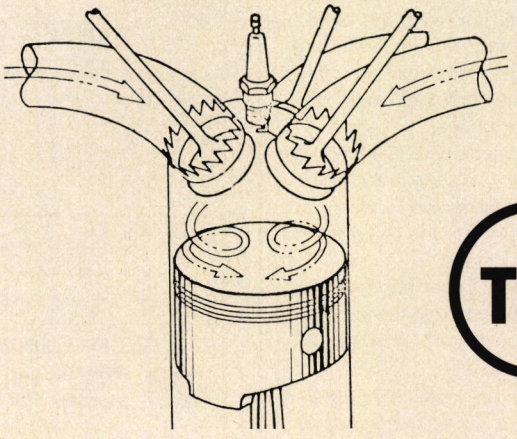
Another development from Sekon, the TISON Engine (Twin-Inlet Swirl Ong Engine), generates the same multiple swirls in the combustion chamber, using two static-swirl mixers placed under the valve sheets of a twin-inlet valve engine. Each static mixer will generate a single swirl. Both mixers combined form twin-inlet swirls rotating in opposite directions. Under the high temperature and high pressure conditions in the combustion chamber, the multiple swirls will produce a highly vaporized air-fuel mixture. The multiple swirls, rotating across the spark plug, also cause the transfer of flame to rapidly burn the air-fuel mixture, forming high and smooth power output.



TISON—A New Decade

Sekon International announces its success in testing its first experimental TISON Engine using a Honda CX 500. With an increase of 20-30% in power, the fuel economy increases 20-30%. Overall performance also significantly improves.

The Japanese have proven that the stronger a turbulence is generated in the combustion chamber, the more the performance is improved. The multiple swirl TISON Engine, with its arrangement of static fins, is presently the best designed engine for increasing the efficiency of engines.



Patent Pending

TISON

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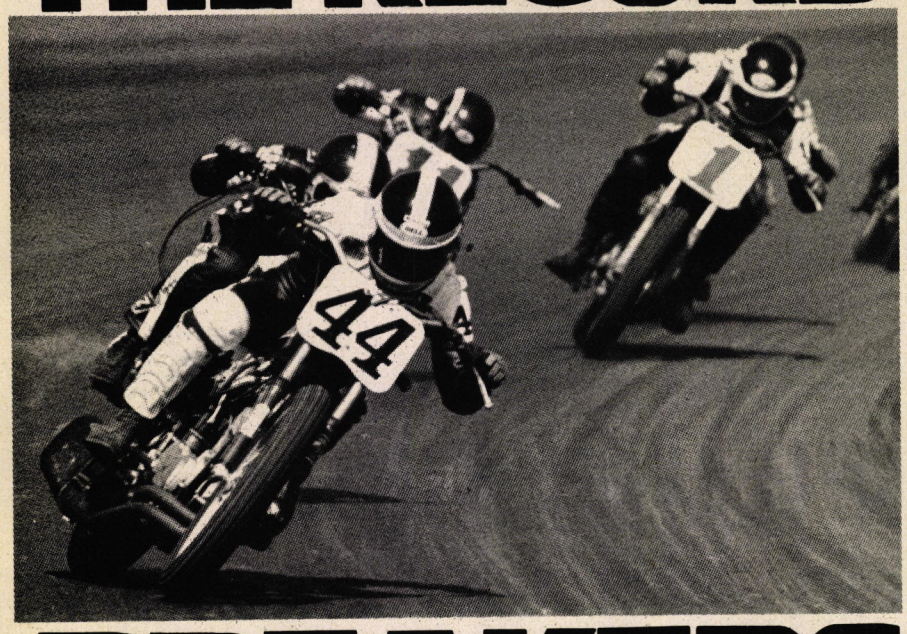
THE RECORD



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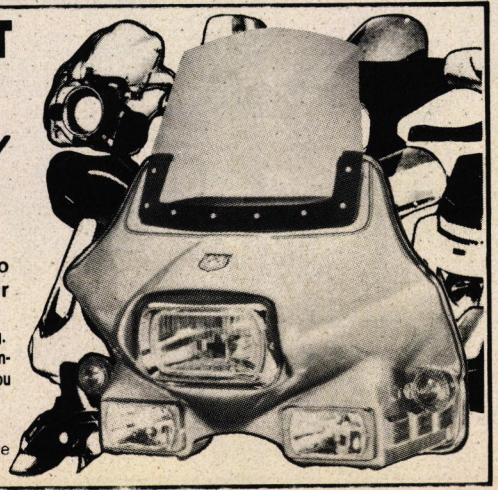
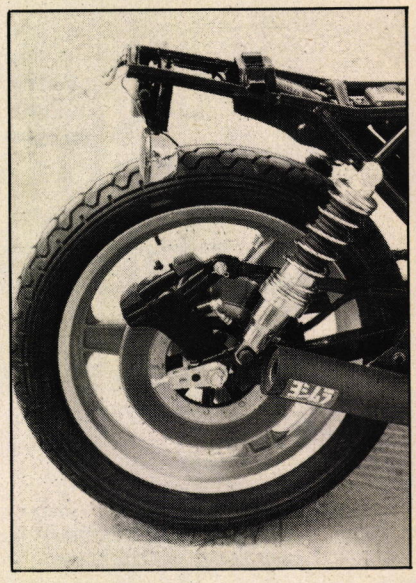


RIDE/REPORT:

Vetter Mystery Ship

Art on wheels.



• The Vetter Mystery Ship is, more than anything else, the ideal gift for the motorcyclist who has everything. Like a Shelby 427 Cobra or a Vincent Black Shadow, the Mystery Ship will become a collector's item; but unlike those two classics the Vetter bike was designed from the outset to find its way into museums. As designer Craig Vetter is fond of putting it, "This is a piece of art you can ride." And those artistic intentions plus a $9995 pricetag should do much to ensure that more people will collect Mystery Ships than seriously ride them.

But for those who do ride Vetter's latest creation, there are some pleasurable miles ahead. For beneath the two-piece body shell is "a real racer you can ride on the street." This racer, though, is essentially a stock KZ1000 with chassis strengthening to duplicate Reg Pridmore's '78 AMA Superbike championship bike. Apart from some extra gussets, a built-up swingarm and a new headstock, the Vetter Mystery Ship is very much a stock Kawasaki.

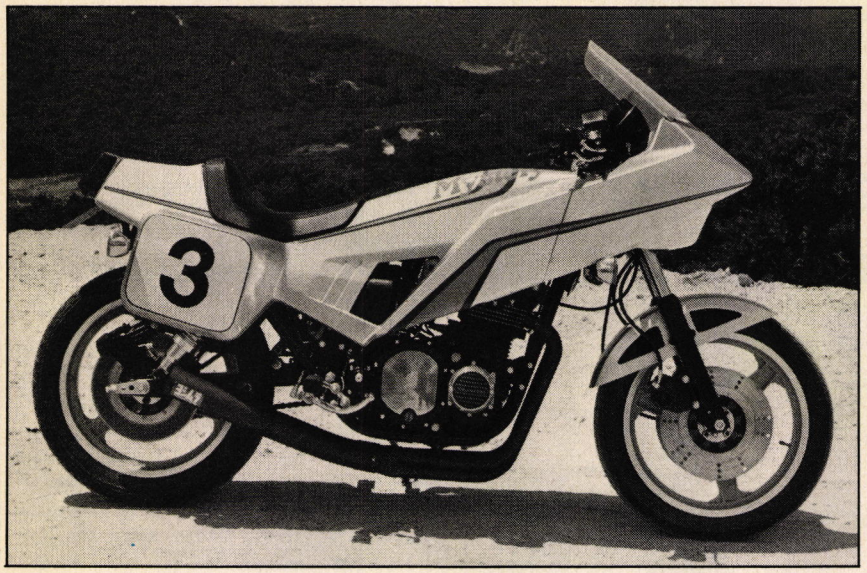
It doesn't have to stay pure Kawasaki, though, for with a little extra monetary massaging your Mystery Ship can arrive set-up just about any way you want it, including the addition of Yoshimura and RC Engineering go-fast bits. The bike I rode had a Stage III Yoshimura engine, which really did qualify it as a racer in street clothing. The howl from the exhaust and the tucked-in café-racer riding position did little to disguise the bike's functional intent. It looked fully the part of a racer, and blasting down a twisty road was

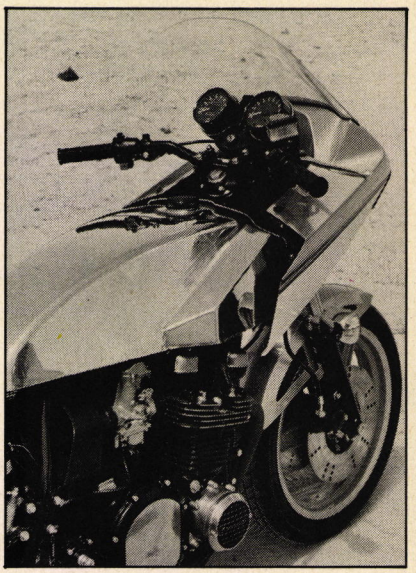
what the beast did best.

The Mystery Ship's stiff chassis banished any Kawasaki wiggles, while the stiffer fork damping coupled with air-spring Mulholland shocks took "wallow" out of the bike's operating vocabulary. British Dymag wheels and fat Michelin M48s also kept the bike tracking straight, except when the Vetter-designed angular bodywork caught the wind and moved everything around a little.

It is a great temptation to remove all that fiberglass, if only to reveal the magnificent aluminum gas tank beneath it, but that denies the essence of the Mystery Ship. Even above its racy promise, the Vetter bike's striking lines render it a piece of art—and a possible barometer of future design.

As a harbinger of the future trends, though, the Mystery Ship is better off confined to the stylist's studio. If the financial future holds a place for $10,000 motorcycles, two wheels will be out of the reach of most riders. Still, exclusivity is precisely what Vetter wanted out of his Mystery Ship. But whether or not 200 would-be collectors are prepared to invest in this street-legal *objet d'art* remains to be seen. *—David Dewhurst*





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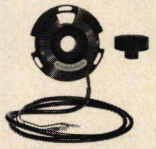

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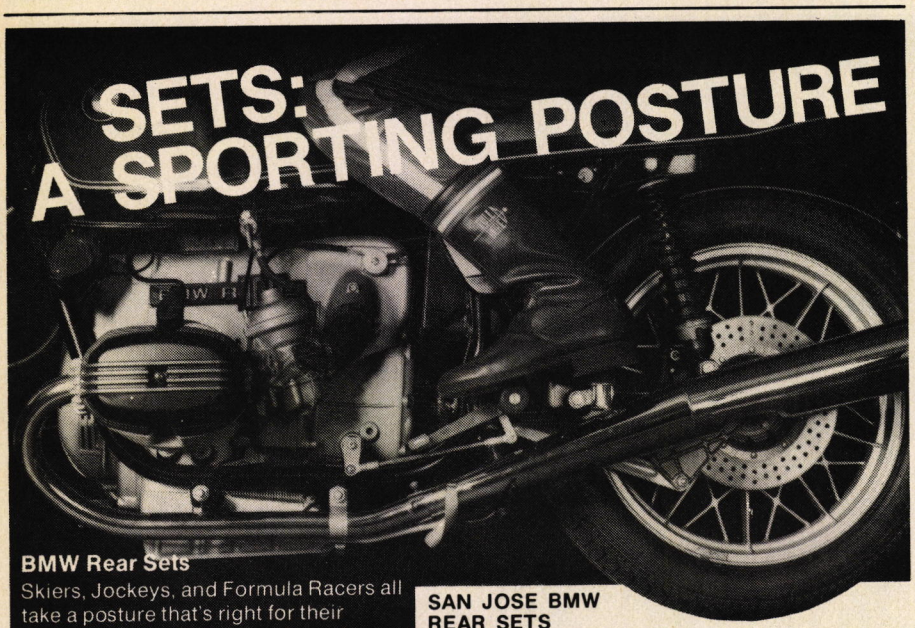

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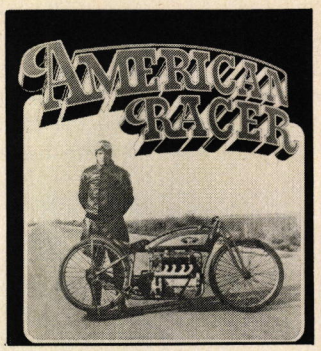
Book Review



American Racer, 1900–1940
By Stephan Wright
255 Pages, $22.95
Megden Publishing Company
P.O. Box 217
Huntington Beach,
California 92648

• This remarkable large-format book of photographs documents the early racing bikes of this century. In addition, it reveals the faces and places from racing of that period. And it's the combination that makes American Racer the most compelling essay on the nature of motorcycle racing—no matter what era—ever published.

Wright set out to provide a guide to early American racing bikes, and the brief text accompanying each photograph describes them. Biographies of the leading riders and accounts of the successes and disasters of the races themselves leaven the technical data. The accomplishments of American racing bikes in England and Australia are also part of the presentation. But because this is a book of facts rather than explanations, Wright misses the opportunity to tell us what it was like to ride these bikes or what it was like to be a motorcycle racer back then. Also, coverage of the Thirties is slim.

Whatever its failings as a written history of American racing, however, the book's photography conveys the nature of the motorcycle rider more unsentimentally—and therefore more powerfully—than any other book has ever managed. You can see a peculiar wild-heartedness in the face of each half-man, half-boy astride his motorcycle, wearing a tattered sweater, leather leggings and a makeshift helmet. And in this selection of grimy, rough-hewn faces we can see our own—the faces of people who have little to gain and everything to lose by riding motorcycles but who do so anyway.

That's the reason American Racer belongs in every rider's library. Sure, it documents the bikes that were the last word in the motorcycle technology of their time. But more importantly, the unconscious art of these snapshots and publicity photos captures the essence of what it means to ride a motorcycle, no matter what era you live in.

—Michael Jordan

• And for two, according to overseas informants, a **350cc** version of the **Cotton** EM34 is scheduled for production sometime early in 1981.

• Making it a clear bevy for the go-fast, go-long riders, there's indication that the endurance **ELF E** will go into limited production soon, powered by a modified **CB900F engine.**

• Also from Over There, reports continue to trickle in about more **wind-tunnel** testing going on at **BMW.** Glimmerings show that you shouldn't be surprised if the RS- and RT-series bikes show up with new fairings and bodywork.

• Other news from the Black Forest grapevine indicates that the 1981 Beemers might run an **air-induction** system similar to Kawasaki's in an effort to reduce exhaust emissions. The talk continues that electronic **ignition** and **watercooling** could also be in the offing.

• In the war of conflicting rumors few marques are left untouched, Honda included. One usually reliable source says that the **CB900C** will be considerably **slimmer** for 1981 to give it a **sportier** image. And another leak says that the C will remain largely as is. Still another insider says that not only will the 900C sport the *status quo,* the **CB750 Custom** will be altered to follow in the 900C's styling treadmarks.

• Other Honda news shows that those oft-repeated tales of a **CX1125** that could be shown by **mid-1981** have spawned even more conjecture about the fate of the CBX. The latest word is that Honda's **sixgun** will become singly shocked this year, using technology developed on the **Pro Link** bikes.

• Well, only waiting will tell about a one-shock Six, but reportedly, waiting won't tell anything about a **Honda 500cc** street **single.** The local loose-tongues have speculated that the bike won't see production because of Yamaha's SR500 hammerlock on the market.

• Of course, gossips being what they are, they will talk. And what they're talking about from **Kawasaki** is an effort to get back to the head of the high-performance pack. How? Simple, say the sources. On the back of a sub-1200cc **fuel-injected** 16-valve **shaftie** with a dry weight of less than 550 pounds and a power output on the fast side of 115 **horsepower.**

• With all this talk of new technomarvels, no wonder there's an outbreak of marque madness about this time every year. Here, however, is a rumor that seems likely to strike all marques equally, regardless of raciness, speed or color. According to the rubber-doughnut types, the **high-fashion** tip in motorcyles for 1981 will be raised-white-letter **tires,** and you can count on seeing them in dealerships soon.

• And according to the Trans-Canada pipeline, you can probably count on seeing this one soon as well. **Can-Am's** 500cc **four-stroke** is said to have come from a drawing-board thumper to a 1981 reality.

• Some shadowy talk from Milwaukee suggests that the rumors of a vee-four aren't the only ones circling above **Harley-Davidson.** A shipment of catalytic **convertors** purportedly found its way to Harley recently, and there's speculation that the big vee-twins could

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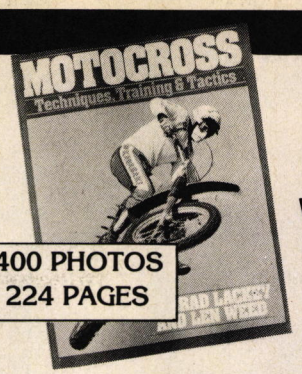

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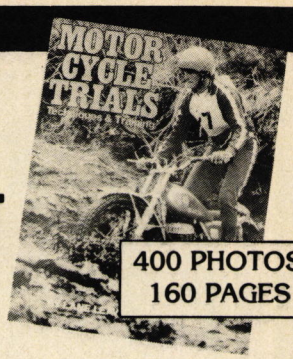

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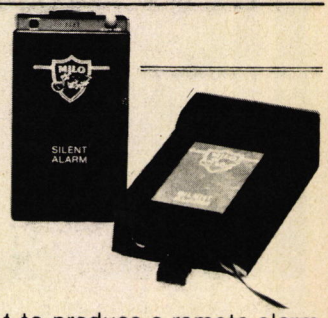

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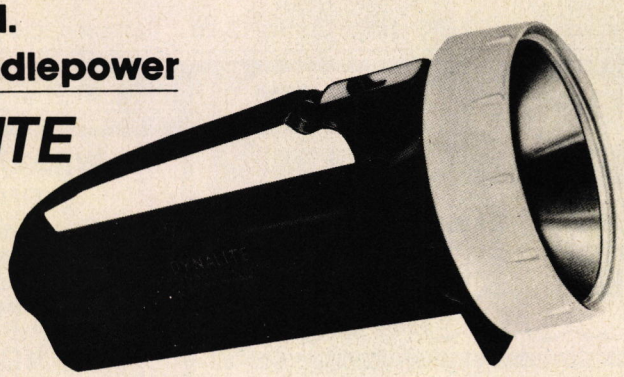

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come equipped with cannisters by as early as 1981.

• In a bit of a non-mechanical tale, government sources indicated that **NHTSA** officials are even now preparing an onslaught of **pro-radar** "information" as support for the widely ignored double nickel.

• To end on a positive note, try this on, but keep it on the QT. The staff of *Cycle Guide* will return to **Bonneville** this year in an attempt to grab another Ride-It-Up-Ride-It-Back trophy. But this time there's a twist. One of the bikes that will hit the salt is a never-before-raced shaft-drive monoshocker that should set its own record. Code Name: **Land Shark.**

APART FROM THE CROWD

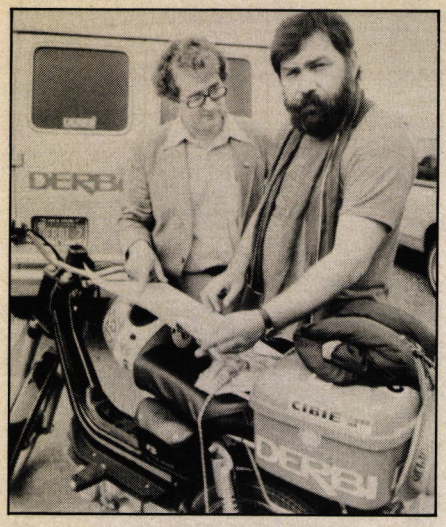
• Wouldn't you really rather not drive a Buick? Isn't it about time to **trade** in that four-wheeler for something new? Well, if the thing you want to trade it in on sports two fewer wheels, you could be in luck—at least if you want a **Harley.** A pair of enterprising Connecticut Harley-Davidson dealers are now accepting **cars** as trade-ins. And business has been brisk, with more than 20 cars and vans recycled for bikes in the past year.

• And if **swapping** quickens your pulse, picture this: A group of prospective swappers, excited at the thought of new experiences, gathers in a circle. These would-be experiential adventurers toss their ignition keys into the center, reach in for one not their own and . . . leave on a different motorcycle. That's not exactly how it happens, but it does begin to explain the nature of the **transcyclist.**

The rest of the explanation comes by way of German motorcyclist Volker Lenzer, whose brainchild Transcyclist International now has more than 500,000 members in every major country of the world. Members can make arrangements for **lodging** through the organization, and can even secure the **loan** of a motorcycle through TI's Lend-A-Bike program. Transcyclist International will also handle the insurance problems. Membership costs run to about $15 per year—and of course, a willingness to open your home and possibly lend your motorcycle to visiting bikers.

• Quiet, a little quiet if you please. A note of remembrance is in order here. **Great Britain,** long held to be the last safe refuge for single-cylinder four-strokes, has closed its doors to the SR500. Due to low demand, the Yamaha **thumper** will no longer be imported into England.

• Ride around **New York** City and you're sure to notice that the streets not only aren't paved in gold, they look like they just barely survived a meteor storm. That is, you'll notice it unless you haven't any business riding because of failing eyesight. The streets of New York are legend for their **potholes,** but just how many are there really? According to one non-profit organization, the total is astounding. Reportedly, a $100,000 pothole count has shown that more than **one million** of the suspension-bottoming craters scar the pavement of the five boroughs alone.



Around the world in 76 days

Earning a page in the record book.

• One Marco Gardoqui has won the inaugural Hit-Yourself-In-The-Head-With-A-Brick-Because-It-Feels-So-Good-When-You-Stop memorial icepack. The Basque rider recently set a world record by circling the globe in **76 days** astride a Derbi moped. But the icepack isn't awarded for something simple like that. No, Gardoqui carried off top honors for something he did while on his record-breaking jaunt: At one point during his trip, Gardoqui rode the **moped** for 36 continuous hours.

• Have you ever tried to rationalize a **ticket?** Here's an improbable way to do it and boost your community standing at the same time. A recent study of 35 major U.S. cities shows that areas with high rates of citations issued also have a lower-than-average number of robberies reported. So the next time you're tagged for a **moving violation,** relax; it's just the price of performing your **civic duty.** You've just helped reduce street crime.

• Okay, by now you're safe. Or safer, anyway. At least you are if you've been reading everything up to now and not just looking at the pictures. Right this minute, whether you know it or not, you're polishing your skills for **avoiding** an **accident.** According to a recent study by the University of North Carolina's Highway Research Center, there's a positive correlation between good **literacy skills** and lower accident rates. The higher your reading level, the less likely you are to have an accident. So, protect yourself; read on. ●

The 1980 Daytona 200 Coverage that appeared in the June 1980 issue of *Cycle Guide* contained an erroneous statement. On page 41 the story reported that Eddie Lawson was glad to learn that the Moriwaki team would return to Japan for the remainder of the year. At Mr. Lawson's request, *Cycle Guide* is retracting that statement. Lawson's recollection is that he said only that Moriwaki is going back to Japan and wouldn't appear in any more Nationals this year.

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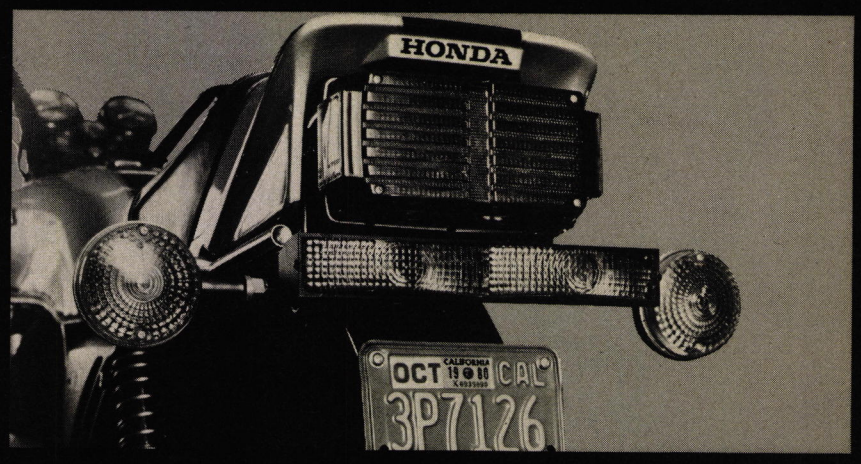

Cyberlite is the most effective brake light ever devised. It's a solidstate, computerized deceleration signal light that works in conjunction with the standard brake light. The harder you brake the faster the amber Cyberlite pulses, and the more brilliant the light becomes. The light pulses, cycling from 1 to 7.6 pulses per second, depending on the rate of deceleration, attracts the attention of the driver of the following vehicle, and causes him to respond reflexively by correctly applying his brakes.

Riders of Cyberlite equipped motorcycles report that people tailgate them less, and the distance between them and the car or bike behind often becomes greater instead of smaller when they apply their brakes. At a complete stop or heavy commute backup, riders say they feel safer knowing they have a big, bright pulsing amber light warning all approaching vehicles.

Group riders report that the accordian action, due to an unexpected traffic slowdown, causes a variety of problems for their members, such as **(1)** having to cut off riders to either side, **(2)** swerving off the road into an obstacle or into oncoming traffic, **(3)** the unfortunate laying down of a bike, or **(4)** the tragic rear-ending of the lead bikers. These problems, they report, are reduced with the use of Cyberlite, and group touring therefore becomes more enjoyable. In fact, in a controlled 19.5 million-mile split sample test on Yellow Cabs in San Francisco, the California Highway Patrol found that the rear-end collision rate was reduced 60.6% for Cyberlite equipped taxis. Yellow Cabs are big, bright and yellow, whereas motorcycles are small, dark and handsome. These test results and the many comments from motorcyclists now using Cyberlite attest to its value and effectiveness.*

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Voevodsky Cyberlite, Inc., 770 Welch Road, Suite 154, Dept. CG, Palo Alto, CA 94304 (415) 854-1242.

*Cycle, May 1980/Popular Science, Dec. 1979/Rider, Aug. 1978/Society of Automotive Engineering, Aug. 1974/Journal of Applied Psychology, June 1974/Report to Legislature of the State of California, Deceleration Signal System Study by California Highway Patrol, May 1973/Proceedings of the National Academy of Sciences, Mar. 1967.

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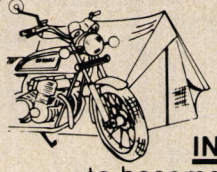

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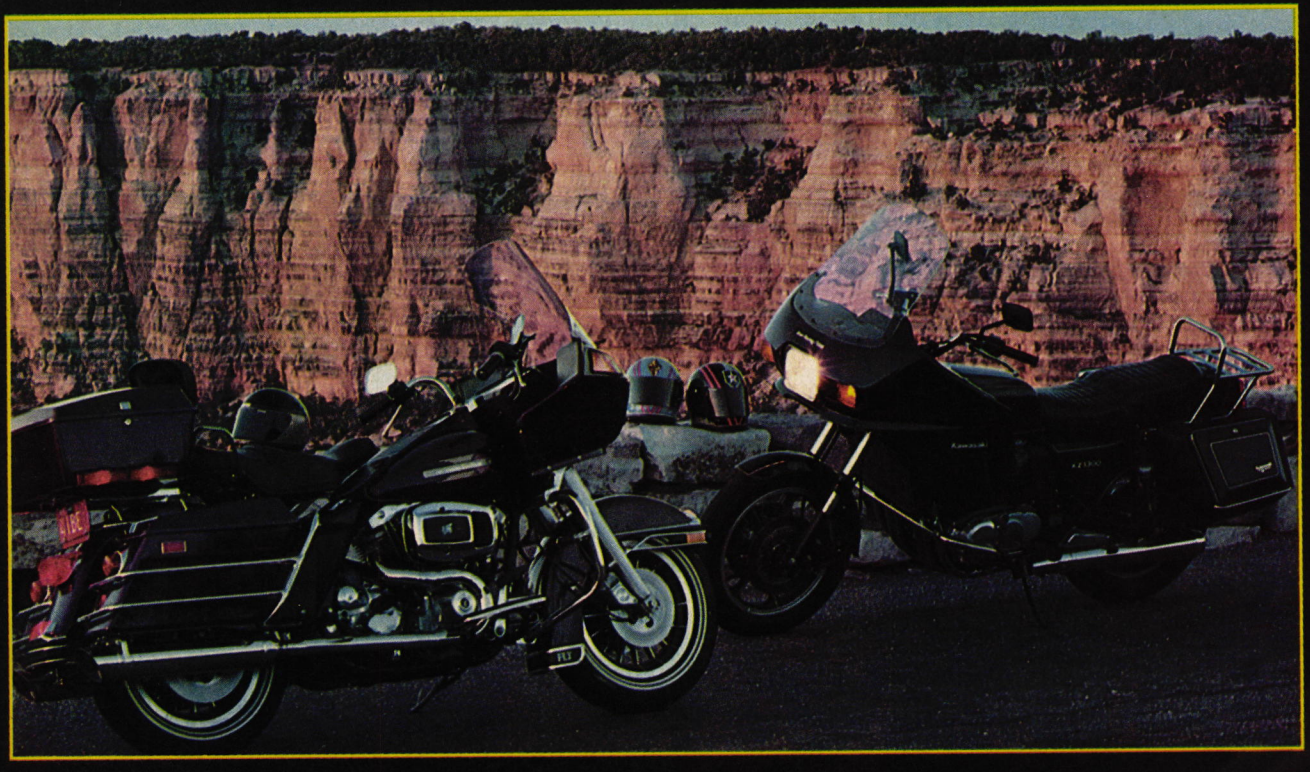
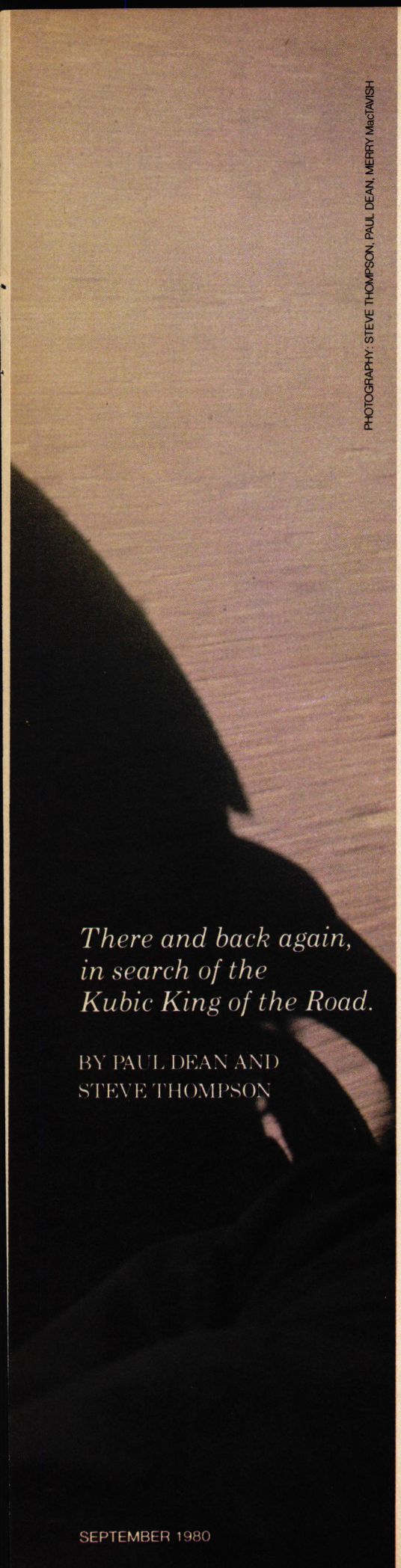
COMPARISON TOUR TEST:

Harley-Davidson FLT Tour Guide vs. Kawasaki KZ1300A Gran Touring





PHOTOGRAPHY: STEVE THOMPSON, PAUL DEAN, MERRY MacTAVISH

There and back again, in search of the Kubic King of the Road.

BY PAUL DEAN AND STEVE THOMPSON

You want to head off to where the clouds meet the clay and do it in style? You want to go First Class?

Fine. Start by throwing away the plastic bags and bungie cords that you thought would convert your street bike into a genuine touring rig. Then forget about dragging footpegs all across America aboard a "sport tourer" that offers minimal accommodations and all the ride comfort of a roadracer. What you really want is turn-key touring, upscale first-cabin style. You want something like the Kawasaki KZ1300A Gran Touring or the Harley-Davidson FLT Tour Glide.

What you've got here, you see, are the two biggest touring bikes you can buy. Ready to roll. Just call the dealer, see your banker, grab your helmet and passenger, aim the thing out the shop's door and head for . . . anywhere. Anywhere at all, no matter how far away it might be. That's why you'd want to ride one of these First Class land cruisers, after all, that's why you'd want 80 cubic inches of liquid-cooled six or air-cooled vee-twin: so you don't even have to *think* about where you might go.

That's the theory, anyway. In fact, of course, the $6016 ante for the Kawasaki and the $696l for the Tour Glide buys you one of two radically different interpretations of what First Class Touring is all about. That's why we decided to load up one-each of these contenders for Best Big-Inch Touring Bike, aim for the Grand Canyon, Zion National Park or anywhere else that captured our fancy, and find the winner by adding up the scores after rolling back into the soupy air of Los Angeles. For while a neophyte rider might imagine that since both bikes have big fairings and high-zoot saddlebags and both displace around 80 inches that they'd be about the same, any veteran tourer will tell you that you can't evaluate a First Class contender by its looks.

This being an experiment in turn-key touring, we left both bikes dead-stock, not to be augmented by so much as a tank bag to make life easier. For the KZ1300, however, box-stock means bolting on the dealer- or owner-installed touring package available from Kawasaki. It includes a full fairing (with lowers) and detachable saddlebags by Vetter, plus S&W air shocks, a luggage rack and chromed engine guards, thereby converting a standard-issue KZ1300 into the KZ1300A Gran Touring. And the fixed saddlebags, detachable-if-necessary tour trunk and twin-headlamped fairing of the new Tour Glide were supplemented only by the inclusion of highway pegs and a passenger backrest, both of which are official H-D accessories.

Since the two motorcycles started out at opposite ends of the touring spectrum, we expected a good deal of revelation out on the road. And we got it. It came while piling up 1400 miles in six days—not, admittedly, a lot for a serious touring type, but there's a reason: We had fun along the way. Not knee-dragging, tire-smoking fun, but *touring* fun. We did what you'd do with one of these bikes. We used it to See The Country, not to flash our credentials as backroad racers. We rode two-up and solo, we hammered along Interstates and rural two-lanes, sand washes and gravely dirt roads, up to 9000 feet and down to minus 200 feet, hot and cold, day and night. In other words, we toured. We didn't race.

The results surprised even us. But the key to coming to grips with our conclusions lies not in the specification sheets for these two bikes but in the way their manufacturers interpret the problems of the touring rider, in what they think touring is all about. Before you vote with your wallet to support either view, you should read on. Because it turns out that neither company has read the other's definition of what First Class touring is or should be. And thereby hangs the tale.

continued

• **Thompson:** I've got a few messages for anyone even remotely interested in really understanding America. The first is that if you don't do whatever is necessary to buy and ride a full-dress, First Class touring bike and use it whenever you can to explore the country, you're wasting a good part of your life. And the second is that if you want the best 80-cubic-inch bike to do it with, I think you ought to try the Harley-Davidson FLT Tour Glide. Because six days worth of two-up convinced me that the technomarvelous KZ1300A isn't even in the same league with the FLT when it comes to Seeing America.

You deserve some evidence for those observations. You'll get it. But understand: If you're a diehard café racer who thinks Vertical Rider Touring is for old farts and Motor Maids, if you're a berm-shooter who imagines that the USA is really just an endless chain of racetracks and Golden Arches, I'll never even come close to convincing you. To grasp even a little of what I mean, you probably should endure a few trips cross-country in a train, a bus, a Buick or even seven miles above it in a Jumbo Jet. Because none of those methods of seeing America lets you really *see* it. You just cross it. To see it, you need to tour it; and on a motorcycle, a tour isn't about destinations, it's about experiences. It's a magic matrix of events, places, sensory excitements and motion. You smell, taste, feel, hear and see the land on a motorcycle. You stop often to marvel and gaze. You get to know the bugs and dirt, the air and water. You live it. You don't watch it unroll like a drive-in travelogue behind your Tinted Glass Group.

There are those among the motorcyclists of this nation who argue that touring with 700-plus-pound bikes like the ones seen here constitutes something very much like seeing it unroll behind your car windshield. They're wrong. No kind of motorcycle—not even a saddlebagged, tour-trunked, floor-boarded, CB-radioed, tape-decked Electra-Glide dresser—will surgically remove its riders from the land the way even a good sports car will. Like a horseman, a motorcyclist is part of his surroundings, while an automobile occupant is a spectator, and always will be. It's the penalty for safety and stability.

Mind you, there's something to be said for a little stability, especially when seeing the land first-hand means head-on collisions with gales and hail, and when the roads vary from wheel ruts to Interstate concrete. If you've got a long way to go and you don't want to See America by stopping in every bike shop along the way to fix broken motorcycles, it's easy to understand why people opt for Big Inches. There's more than just psychological value in having sufficient power lurking down there below the fuel supply, there's physics, too: A fully loaded touring rig can tip the scales at over the half-ton mark, and so having a hundred-plus ponies doesn't seem so unnecessary when you're rolling up the steep side of the Rockies.

Dean: There's always been an automatic assumption here in the United States of Affluence: Bigger is better, and that's that. Bigger cars, bigger homes, bigger barbecue grills, bigger everything—including bigger motorcycles. So right or wrong, it's almost a foregone conclusion that *the* way to see the USA on two wheels is on the biggest touring mutha that money can buy.

Once you climb aboard that traditionally American train of thought, it screeches to a halt at the doorstep of every Harley-Davidson and Kawasaki dealership in the country. Because that's where you'll find the two biggest touring muthas of all, the only 80-inch over-the-roaders made today: Harley's Tour Glide, the most radical thing to happen to the giant Milwaukee vee-twin since the invention of suspension; and Kawasaki's KZ1300A Gran Touring, the most *logical* thing to happen to that year-old water-cooler since its designers somehow concluded that six transverse cylinders were better than any other number or configuration.

Sounds simple enough. But it isn't. Because even though having two touring motorcycles in the 80-inch category offers the buyer a choice, it's neither a simple nor a conventional one. The H-D and the KZ are alike only by virtue of being *motorcycles*, for they're such diametrically opposed extremes, such definitive examples of wholly divergent engineering philosophies, that they could have come from different solar systems. The Harley, with its roots planted firmly in Middle America circa 1930-something, is a machine to which the word "technology" seems out of place. And the Kawasaki is a paragon of sophisticated design and utter complication, as though it were the winning entry in an Impress-The-SAE contest held by *Technology Review* magazine.

What's missing in 80-inch tourism, though, is a regular old everyday sort of bike, a four-cylinder, air-cooled Universal Japanese Motorcycle decked out for cross-country hauling. Not that the absence of such a motorcycle is necessarily a bad thing; it's just that you should understand right up front that owning either the Tour Glide or the 1300A will qualify you as Being Different, and you need to insure

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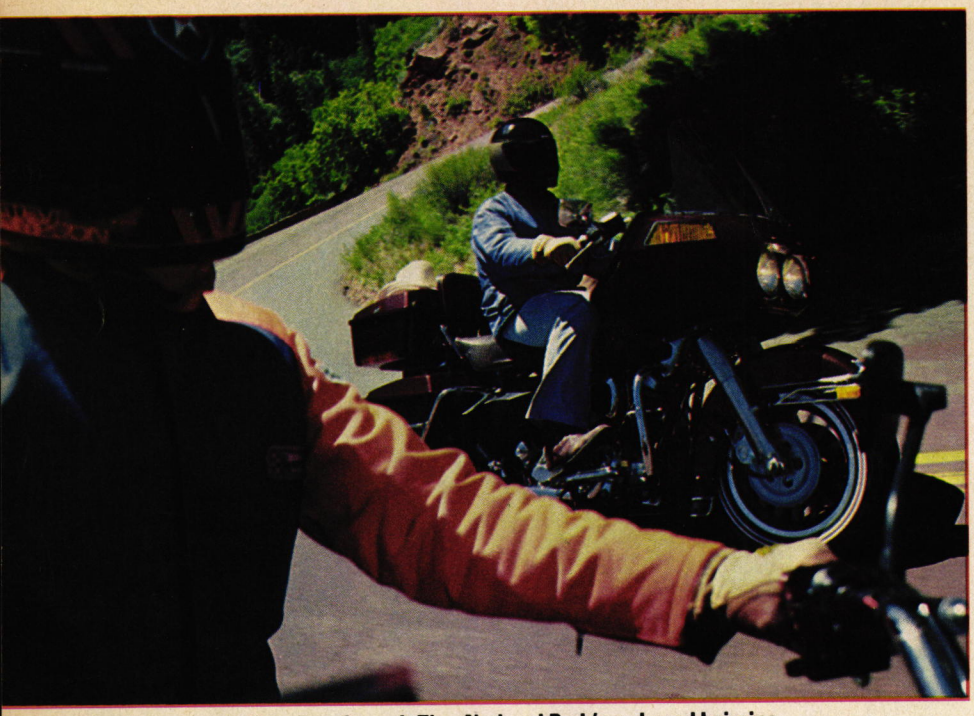

Touring twosome bending through Zion National Park's red-road hairpins

Something best done at a leisurely vacation pace aboard either bike.

that you really want everything that goes with the territory when you ride at either extreme of the touring spectrum.

Thompson: As I rode the FLT home for the first time after picking it up at the *Cycle Guide* shop, I rediscovered a few long-forgotten things, such as that horsepower alone does not a good touring bike make. It's a good thing, too, or the FLT would be last in almost any class. H-D has done wonders with the aging vee-twin, but down between its rubber mounts it still hammers away inefficiently, unevenly pounding out nothing resembling a high peak power figure. Instead, it produces the steady, friendly, usable kind of power I'd grow to love up at 9000 feet.

On that ride home I renewed my acquaintance with Harley Tour-Think. Floorboards with rubber mounts. Rocker shift lever. Brake pedal *à la* Model T. Sprung, adjustable King/Queen seat with damping by friction nut. Triple disc brakes, but lever/pedal pressures so high that they might as well not be there. A wide, *wide* handlebar, buckhorn style, and those execrable Harley switches, on which you have to exercise much thought before use, at least if you're accustomed to Japanese-bike standardization.

Worse yet, the FLT shifted like an old BMW R69S, which is to say badly. It clunked into and out of gear, and neutral was an elusive place not often found. The suspension seemed to have about an inch of travel and was of the gush-gush variety. I perched atop the FLT—not *in* it—and struggled to get familiar with the bike to which I would trust myself and Merry MacTavish over the next week.

It wasn't easy. That first day, in the 30 minutes I rode it home, I already hated the thing. The weird steering geometry baffled my reflexes, making it hard for me to ride slowly in dense traffic. The brakes made me sweat with effort and, once, with fear. I rolled it into my garage and finally swung the chromed dagger of a kickstand down and slid off, sure I was going to despise it.

Loading the FLT seemed to underscore its fate. The saddlebags look big, but they're not. The right-side bag is eaten up by the intrusion of the battery, which was moved (along with the oil tank) outboard to allow the rear cylinder to dump its superheated air somewhere other than on that 12-volt electrical supply. That has succeeded in extending the battery's maintenance intervals while increasing its service life; but an unpleasant result is that the bag is really just two-thirds of a saddlebag, because the thin remaining slice of the front section is used up by the (admittedly wonderful) zippered toolcase. So after we packed our cameras in the big tour trunk, all our clothes had to squeeze into the other saddlebag and a half—not an easy task for two people on a long ride. With a proper set of waterproofed liners as removable luggage, the problems wouldn't have been so acute. But as it was, we had to stuff in backpacks and flight bags willy-nilly and force on the removable lids, hoping the fore latch wouldn't slip off. It seemed from the outset that the task of stuffing and unstuffing every day would get tiresome. It did.

But a funny thing happened the very first day. After we met up with Paul and his big green 1300 (its removable suitcase bags made us grind our teeth in envy), we headed for Barstow, California—a short hop of two and a half hours, but significant since it got us out of the Los Angeles maze. I just set the friction-lock screw on the FLT's twistgrip to the speed I liked and relaxed. The scenery engulfed me, the engine loped along at around three grand, unnoticed in its rubber mounts, and that was that. It seemed as though we arrived in Barstow with no effort at all. That should have told me something, but it was to take the whole trip before I realized what it was.

Dean: According to H-D's ads, you've never ridden a motorcycle until you've ridden a Harley.

Funny that they would make such a claim, because in my six days of solo cruising in and around the canyons and across the deserts of the Southwest, I never—repeat, *never*—felt as though I was on a motorcycle (not as I know them, at least) when I was aboard the FLT. A low-effort, non-tiring land cruiser, yes. A rock-steady open-air sightseeing platform that stayed on-course as though on autopilot, yes. But a motorcycle? No. Absolutely, unequivocably, *no.* And if you've cut your teeth on motorcycles made anywhere but in the USA, you'll probably feel the same way.

Not that the KZ1300A came across as my idea of The Perfect Motorcycle, either. No one who has ever ridden long distances on two wheels would think of powering a *real* touring bike with a high-revving, light-flywheeled, ultra-wide, heat-radiating, water-cooled transverse *six,* for God's sakes. But someone at Kawasaki did, and by trip's end I grew to wish I had that person with me, whoever he is, to experience the results of his handiwork first-hand.

Oh, around town and for the first few hours of the tour the Thirteen was fun. Its 120 crank horsepower could squirt me across the desert floor in short order, and the quick CV-carb throttle response and banshee-wail exhaust note were amusing. But the novelty soon wore off. The touchy throttle and resulting engine rpm changes became aggravating on hours-long drones along roads that seemed to have been laid out with a straightedge. Too, the fairing liked to funnel the engine's intake and exhaust noise up into my face, causing an

ever-present resonant din in my helmet that often left my ears ringing at the end of the day. And although the fairing's lowers are intended for use in temperatures much lower than what we generally experienced, the fact that they surround a 21-inch-wide cylinder block and its red-hot coolant radiator just compounded my discomfort in warm weather.

In all fairness to the KZ1300A, though, I have to admit that the bike is a better touring instrument than most other motorcycles. But not compared to the Tour Glide. Every one of the KZ's long-distance shortcomings would be graphically pointed out to me every time I'd unass the Kawasaki and take up residence aboard the FLT. The Kawasaki, you see, wants to do most everything in a big hurry, whereas the Harley can't be made to do *anything* in much of a rush. It accelerates, decelerates, leans, turns, slows and stops all in its own good time. And while that might be the ultimate put-down of most other kinds of motorcycles, it doesn't take a Rhodes scholar to figure out that when you're Seeing America, the Harley's deal is a demonstrably better one than the Kawasaki's.

Thompson: I had looked forward to riding the Kawasaki with some hunger. It seemed so modern, so purposeful, so serious as a motorcycle, while the FLT, even with its drastic improvements, seemed . . . well, it seemed a Harley. Thunka-thunka clang!

That I happened to get the KZ1300 for the first time on the hottest portion of our ride may have hastened my understanding of what a touring bike really needs to be, but not by much. The Kawasaki was uncomfortable at once. The engine poured out heat like a turbojet. Not a whisper of cooling wind got to my legs, despite the cute but worthless vents just above the fairing's lowers. The seating position gave me a cramp in my neck that didn't go away for hours. The seat was standard-issue Japanese awful. Everything buzzed and whined at what seemed like eight grand. The throttle demanded that I modulate it as carefully as a radio's tuning knob. The result was that while I loved the instant action of the brakes, while the bike seemed rock-steady in all but sidewinds, I got tired very quickly. I looked for reasons to stop that had little to do with the scenery. The speed and power, the awesome sophistication of the bike suddenly meant very little.

Dean: No matter where I looked, what I touched or how I rode on these 80-inchers, their worlds-apart designs were continually evident. The Kawasaki, for instance, was, through a few clever tricks in

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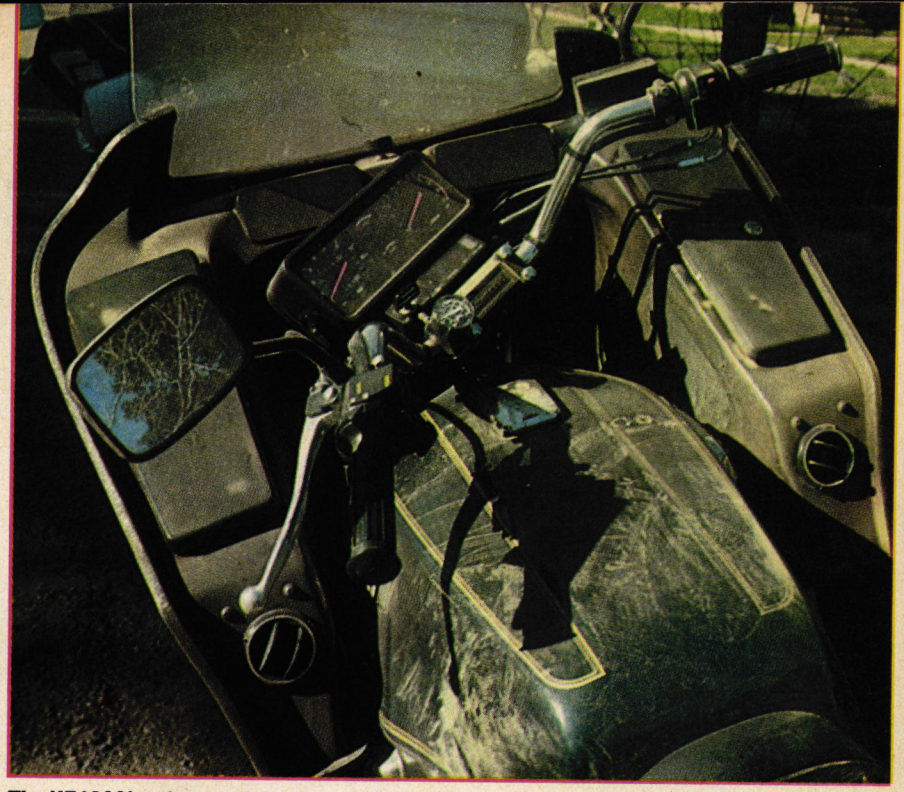
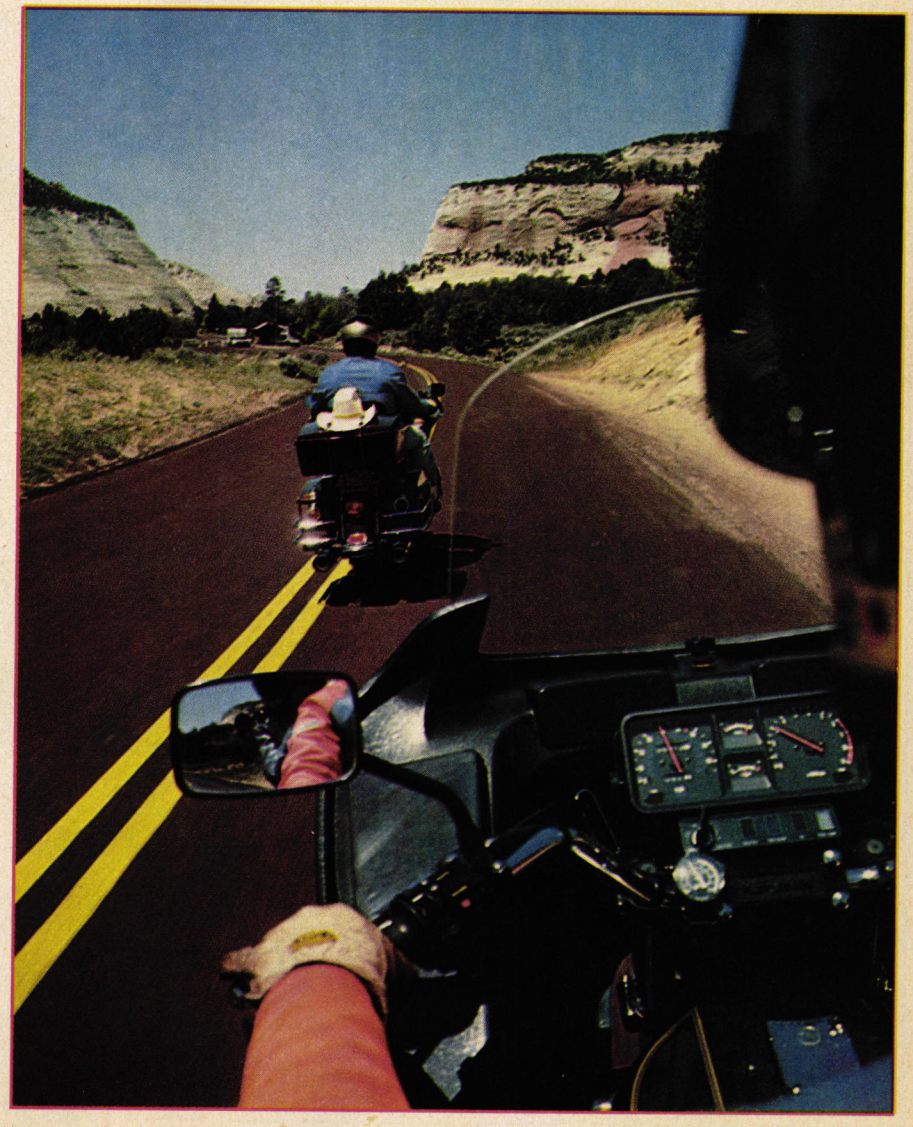


The KZ1300's grimy cockpit after 13 dust-choked miles of bad Grand Canyon road

But what a difference one day and two 50-cent carwashes can make.



THE HARDWARE:

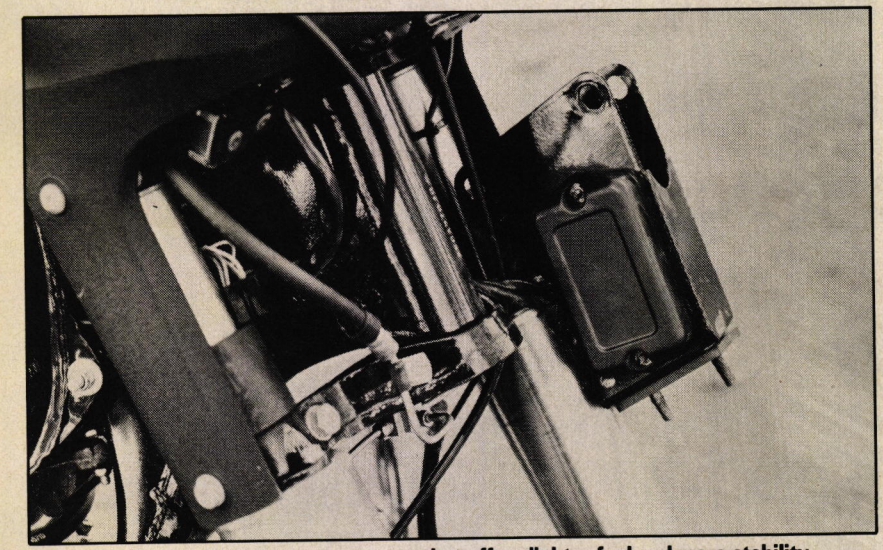
Harley-Davidson FLT Tour Glide

A clear step along the Glide path to better touring.

• The problems that Harley-Davidson's engineers faced when designing the new-for-1980 FLT Tour Glide would have baffled the Impossible Missions Force. Because H-D's guys had to do something *really* impossible: build a significantly better touring bike than the FLH Electra-Glide, but one that would still look, sound and feel the way FL-series Harleys always have. Those characteristics are, after all, what have made the big H-Ds so appealing to so many for so long. The engineers therefore *had* to build their new bike around the less-than-modern vee-twin engine and basic Electra-Glide styling; but they still were mandated to make it as smooth as a multi and as fiddle-free in its chain drive as a shaftie, with chassis geometry that would ease the heavy steering that had made the FLH such a low-speed handful. In other words, Harley asked its engineers to work miracles.

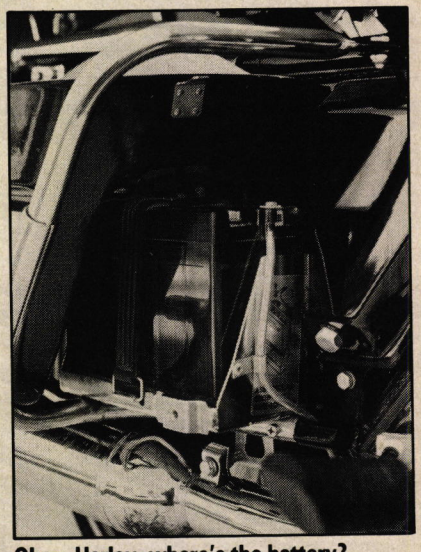
But work them they did to gain some exceptional results, even though many of their ideas were borrowed from other motorcycles. Like the "Tri-Mount" elastic engine-mounting system, for example, which is very similar to the Isolastic arrangement pioneered by Norton. The motor rests in the double-downtube frame on three special rubber mounts, one at the front and two at the rear, with the swingarm mounted to and pivoting on the rear of the transmission case. That lets the engine shake, rattle and roll to its heart's content while the rest of the machine remains almost free of vibration. And since the swingarm and rear wheel attach to the component that is doing the vibrating, the shuddering of the engine has no effect on chain tension.

Further, each run of that No. 530 chain is fully enclosed in a large rubber tunnel, and the entire system is sealed and bathed in its own supply of 50-weight oil. That concept is not unlike one used by Bultaco about a decade ago, but this one allows the chain's minimum recommended mileage between adjustment checks to be 1250 miles. With average use, however, the chain shouldn't actually *need* adjusting more often than once every 2000 to 4000 miles. So who needs a shaft?



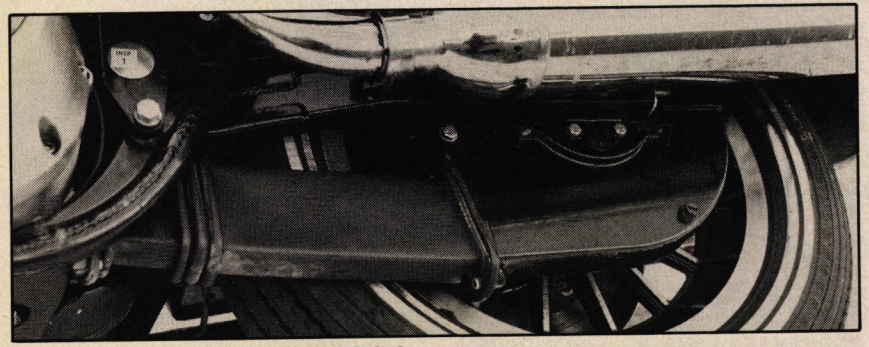
H-D's "backward" steering arrangement that offers lighter feel and more stability

Putting the cart before the horse sometimes works.



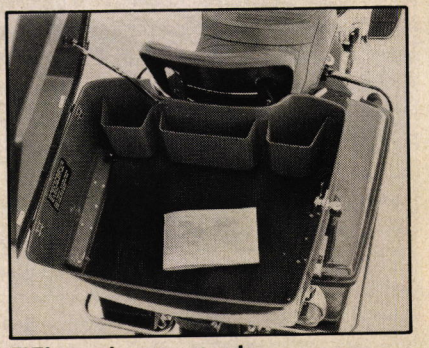
Okay, Harley, where's the battery?

In the saddlebag, where else?



FLT's totally enclosed and oil-bathed chain

Combining the low maintenance of a shaft with the high efficiency of a chain.



FLT's spacious tour trunk

Thoughtfully designed.

Harley *did* decide that the FLT needed the firm's first five-speed gearbox, though. And the entire gearcase, which is a separate unit that bolts to the crankcase on FL twins, now sits closer to the engine, allowing for a shorter and thereby stronger dual-row primary chain. But aside from those changes, plus the switch to a breakerless transistorized ignition and cast-iron valve guides instead of bronze, the power-producing segment of the FLT's engine is the same 45-degree pushrod vee-twin as used in '79.

That new proximity of transmission and engine was made possible by the FLT's frame, which does away with the under-seat centerpost that ran vertically between those two cases on the FLH. But the most interesting part of the new frame is its steering geometry, or more precisely, the way in which it achieves that geometry. The steering head is very steep—25 degrees, to be exact—with the fork tubes raked out three more degrees to 28. But the steering head itself is way out *ahead* of the fork tubes and triple clamps, almost as though the front end had been assembled backwards.

The theory behind this is simple: A steep head angle was desired to allow the 785-pound FLT to have a light low-speed steering feel; but the angle and location of the fork tubes was dictated by the need to have sufficient trail (5.88 inches) for exceptional directional stability. Truly an unusual approach, to be sure; but it works.

Actually, there's virtually nothing about the FLT's frame that's the same as the FLH's, whether it be the new square-section backbone or the Showa rear shocks that aren't so radically forward-mounted as before. And two more "firsts" are a one-piece gas tank in place of the usual two-piece FLH affair, and instruments housed in a conventional handlebar pod rather than on the tank.

There are more detail differences, but the message is already clear: This is without a doubt the most innovative and *different* big Harley in a coon's age. Before the FLT came along, in fact, many people would have thought H-D incapable of such change and refinement. But they would have been wrong. Because contrary to popular opinion, a real engineering department *is* alive and well and living in an old gray building on Juneau Street in Milwaukee.

—Paul Dean

mass placement and steering geometry, able to handle in the twisties much more deftly than one would think possible for a 730-pound Hulkbike; but that same maneuverability was, like the snappy throttle response, a detriment to First Class tourworthiness by making the KZ more sensitive than the H-D. Even though the long-wheelbased 1300 is more stable than most, I often took my eyes off the road for a few seconds and discovered upon looking straight ahead again that in the interim the bike had re-aimed itself by a few degrees.

Not so the Harley, for the very chassis characteristics that caused it to feel uncertain when bending through fast turns in the Virgin Mountains of Nevada or clumsy when snaking around the 10-mph switchbacks in Zion made it unerringly stable in a straight line. The 5.88 inches of front wheel trail account for much of that unwavering steadiness, and the huge footprints of the square-profile MT90-16 tires further enhance the FLT's homing-signal tendencies. And so the same pavement transitions and gusts of wind that nudged the Kawasaki off-course sometimes made the H-D tilt a degree or two to one side or the other, and occasionally its offbeat steering configuration would cause the handlebar to give off the slightest hint of a twitch; but seldom, if *ever,* did the FLT change direction as a result.

Even more contrasting are the very different ways in which each company approached rider comfort. Kawasaki, of course, tried to insulate the riders from the roughness of the road with a fixed seat and air-assisted suspension. And the problem of engine vibration was—in theory, at any rate—short-circuited right at its source by use of a six-cylinder engine.

In actual practice it works quite well, too, but not as effectively as I think a First Class touring package should. The engine was creamy smooth most of the time, but at cruising speeds there was a low-amplitude, high-frequency buzz that left me with fuzzy mirror images and, when I was wearing thin gloves, tingly fingers. And the suspension felt fairly plush and compliant until I thundered over a stretch of bad pavement just outside of Kingman, Arizona on I-40. There, and on several other patches of less-than-smooth road throughout the tour, I was the unhappy recipient of some decidedly heavy thumps through the seat. Granted, I had opted to keep the stock (and hard) seat rather than switch to one of Kawasaki's two optional King/Queen buckets simply because I like being able to move around on the saddle. But in the end I was glad I had, for even though I got numb-butt sooner with the stocker than I would have with a bucket, I was able to use several alternative seating locations to help ease the pain.

Over at Harley-Davidson, though, the long-standing theory is not to isolate the entire sprung mass from vibration and road abuse, just the rider and passenger. And, believe it or not, it works. The engine quakes and shudders like the world's biggest Jell-O sculpture, just as it always has, but the rubber mounts keep any of those convulsions from affecting the human cargo. There's very little vibration felt in the footboards, none at all in the seat, and the handlebar is so undisturbed at 70 mph that you can read license plates in the nonconvex mirrors. The only time you're aware of the turmoil being stirred up by the FLT's pair of 668cc cylinders is when you either look down and see the whole business shake or rest your right leg against the air cleaner case.

Rubber-mounted engines are not unique these days, but Harley's special brand of suspension certainly is. In truth, the chassis suspension is fairly awful, if you must know, a fact that is unmistakable when the 785-pound Tour Glide crashes over an abrupt bump. There's a terrible clanging noise at both wheels, accompanied by a sharp jolt at the handlebar and a mild thump at the footboards. But that's all the rider feels 90 percent of the time on giant bumps, for the sprung seat (when properly adjusted for the load) soaks up what gets past the fork and shocks. Not only that, the seat's contoured shape helps deter the onset of numb-butt more effectively than the Kawasaki's saddle.

Thompson: And so it went. At midday we'd switch bikes, and in the evening we'd curse and struggle to get all the packs and loose bits out of the Harley's bags. Still, the days went by in a kind of dream sequence: the incredible Abyss at the Grand Canyon South Rim; the sheer expanse of the mile-deep maw from Hopi Point; the flaming, surreal colors of the Painted Desert; the spooked mules and battered cowboys on our mule ride down into the Canyon on the North Rim's Kaibab Trail; the mind-breaking majesty of Zion's mighty sandstone cliffs rearing into the sky like castles of the gods. Squirrels, coyotes, swallows, hawks—even an eagle, soaring silently in the hot wind near its eyrie in the towering cliffs outside Kanab, Utah—and the endless bugs, slamming into our blessed Plexiglas and Lexan.

By the fifth day we'd ridden over every kind of road the Southwest offers, if "offers" is the right word. I thought about

Continued

THE HARDWARE:

Kawasaki KZ1300

Pound for pound and part for part, the all-time King of Cubic Stuff.

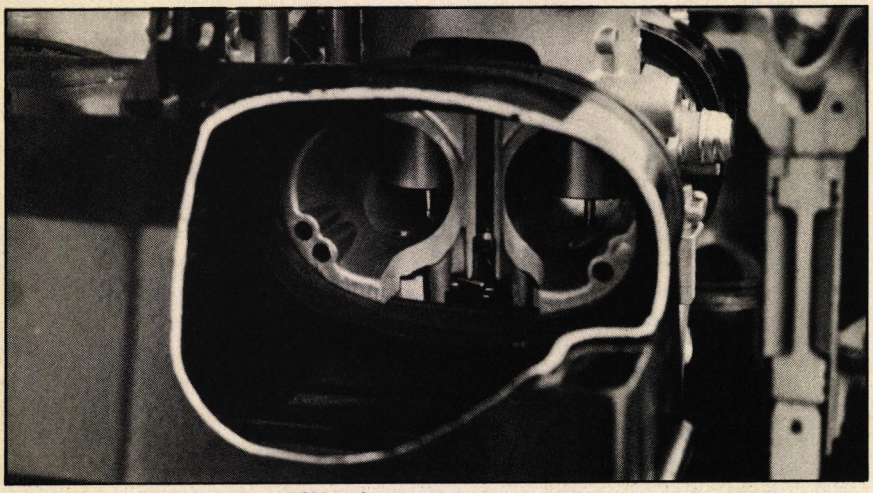
• If the measure of a motorcycle were the thickness of its parts catalog, the KZ1300 might be the greatest bike of all time. When it comes to sheer hardware, this Six is jam-packed with more of it than the auto-parts store in Hog Shooter, Oklahoma. Yet despite its complexity, the 1300 has kept its reliability record virtually unblemished since its introduction more than a year ago.

No one should have been too surprised at the 1300's dependability, though, since Kawasaki had already proven itself capable of building tough-as-nails four-strokes long before the advent of The Big Six. There's not, admittedly, much about the Thirteen that's even vaguely reminiscent of other Kawasakis, but the engine people at the factory in Akashi apparently understand what "bulletproof" means, and that's what matters.

Aside from having more cylinders, two of the 1300's biggest departures from the Kawasaki street-bike norm are liquid cooling and undersquare bore/stroke proportions (62mm bore, 71mm stroke). All previous KZ four-strokers have been either perfectly square in that respect, or oversquare. But there's a good reason for smallish bores in this case: minimal engine width. A transverse, six-cylinder, 1300cc engine will be wide no matter what; but keeping the bores relatively small allows for a closer spacing of the cylinders and, so, a narrower engine. Moreover, since water cooling also permits a closer center-to-center distance between bores than does air cooling, the 1300 can be even narrower yet.

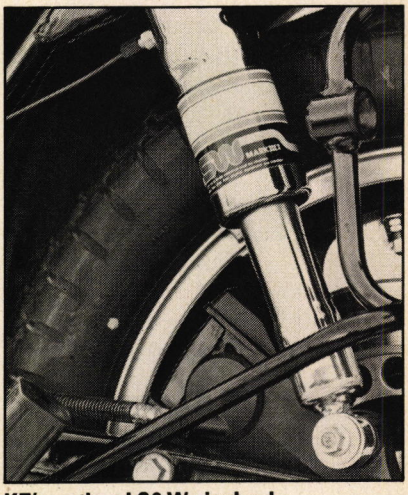
Still, it's not quite as narrow as a CBX air-cooled six, simply because the KZ has ancillary components bolted to the ends of its one-piece forged crankshaft, where the Honda does not. A heavy automotive-type harmonic damper hangs on the left end of the crank, while a massive alternator sits at the right end.

Oddly enough, the 1300's designers were just as concerned with the engine's length as they were its width. That's why the post-transmission jackshaft (that normally is behind and parallel to the countershaft) is *inside* the countershaft on the Thirteen. And that's also why the electric fan that draws cooling air through the KZ's big alumi-



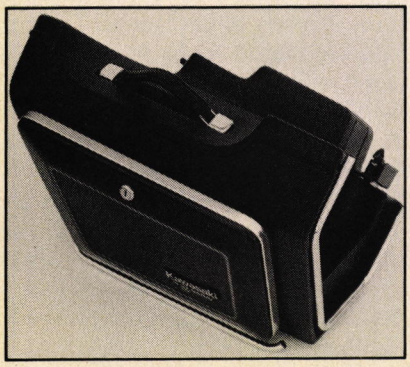
Kawasaki's unique two-barrel CV carburetors

Three of these help keep the engine narrower than six of the usual kind.



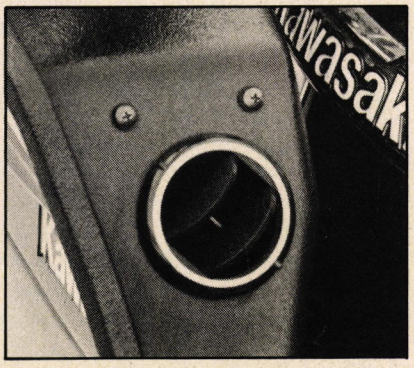
KZ's optional S&W air shocks

For once, inflation is the answer.



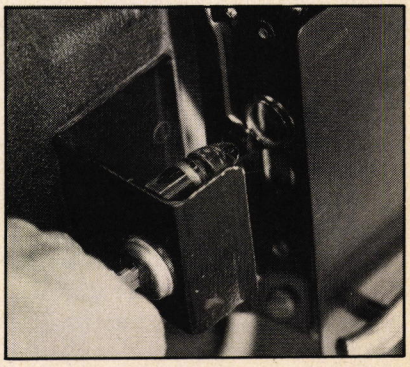
1300's Vetter-designed detachable bag

Function loses out once again to form.



Auto-type air vents on KZ1300's fairing

Cute but worthless.



Quick-detach mechanism for KZ's bags

Off in seconds with a twist of a key.

num radiator uses a special printed-circuit motor rather than conventional coiled-wire windings. Without the unusual compactness of that motor, the radiator—and thus, the front wheel—would have to be located another inch or two farther forward. Even so, the 1300 has an incredibly long 62.5-inch wheelbase, the result of sandwiching such a massive powerplant between the Dunlop tubeless tires.

One peek inside the engine reveals why it's so big: Not only does it have six cylinders of valves, springs, pistons and rings, it's also filled with gears, shafts and things that operate other things. The crank, for example, drives a pre-transmission jackshaft via a Hy-vo chain, and that shaft turns a huge clutch through another Hy-vo. A third, smaller Hy-vo spins the dual overhead cams, but it is driven by the *jackshaft*, not the crankshaft. The left end of the jackshaft also drives a roller chain that turns a shaft that crosses over to the right side of the engine where, through a pair of spur gears, it drives the rotor that triggers the transistorized ignition. Then the water pump at the front of the engine is powered by a shaft that runs between the two middle cylinders and is driven by bevel gears in the middle of the ignition shaft. Finally, spur gears at the left end of the jackshaft turn the oil pump.

The rest of the KZ1300 isn't as complicated as the engine, but it's still not a simple motorcycle. For one thing, it pioneers motorcycling's use of two-barrel CV carbs with a trio of Mikunis, each having a venturi diameter of 32mm per barrel. The 1300 also was the first bike to use Kawasaki's Air Suction system, which is a bank of reed valves atop the front cam cover that lets air into the exhaust ports during the exhaust cycle. This supports more complete burning of the gases, resulting in cleaner emissions without such lean jettings.

There is other innovation to be found elsewhere, be it the anti-theft system built into the electrics or the solenoid-operated fuel valve that opens only when the ignition is turned on. But while those things might be considered gadgets on most other bikes, they simply underscore the 1300's role in motorcycling. Because whether or not it's The Best in any performance category, one thing's for sure: If you're looking for the most cubic motorcycle that money can buy, you've just found it. —*Paul Dean*

Cannonball Baker and his epic, lonely ride across the continent in the early years of the century, when a road was simply a narrow place where nothing grew; but it didn't make me feel any better about negotiating the dusty, sandy, washboarded 13 miles from the North Rim's entrance station to our lodge. The Kawasaki's front wheel took over from me as it danced and yawed through the washes. I saw Paul disappear into a choking cloud of fine red sand, motionless in the cool mountain air, and just aimed for the swirling hole he'd made, hoping he knew where he was going with the Tour Glide. When we left, the consensus was that the H-D handled the uneven surface better than the KZ1300, a victory perhaps for its "square" whitewall tires.

Dean: So Thompson and MacTavish were green with envy at the Kawasaki's detachable saddlebags, eh? Well, they wouldn't have been, had they been with me in three states' worth of motel rooms while I loaded those unwieldy bits of pseudo-luggage. Truthfully, I like the Galactican appearance the bags lend to the rear end of the 1300, even though they make the bike incredibly wide back there. But they're a study in wasted space, with countless nooks and crannies and strangely unparallel sides that make the things aggravating to load. To begin with, you can't get them to lay on their lumpy backs, so you either have to prop them up when loading them or else do so with the bags at an unusual angle. And the door openings are considerably smaller than the bags themselves, so that putting any big flat objects (like a small plastic briefcase, for instance) inside calls for some clever insertion methodology. The bags also leak when you ride in the rain, so don't throw away *all* of those plastic trashbags if you want to ride all day in the wet and be dry in the evening.

At least the bags have a reasonable capacity and attach/detach in about two seconds flat. And better yet, the pockets in the fairing are immense. I stuffed them with three quarts of oil (two for the Harley and one for the KZ, all of which were used within 1200 miles), my Mascot riding pants, a Widder Lectric Vest, a camera tripod, a portable cassette recorder, two spare pairs of gloves, a flashlight, duct tape, rags, glass cleaner, plastic polish, notebooks, pens and some spare sparkplugs—all with plenty of room left over. I wasn't sorry, either, for at one time or another, every one of those items—save for the plugs and the vest—was needed.

Thompson: It was while we swooped across the sun-blasted hills of Lake Mead's North Shore Road that I finally realized what all the thousands of sensations of the past days had been telling me. It would take a book to recount them all, but they all boiled up in Bob's Family Restaurant as Paul and I tried to grapple with our findings that night in Boulder City, Nevada.

The Kawasaki, I felt, was the superior machine. Better designed, better assembled. Better fit and finish. Only its self-cancelling turn signals had stopped self-cancelling, demonstrating that on this tour, at least, suspicions of the Thirteen's unreliability by dint of its complexity were allayed. It was just as reliable as the Harley. And it was just as fuel-efficient, too; in any stretch of riding, the two-up bike was likely to be the one with slightly worse economy.

So it seemed logical to elect the KZ1300 as the Tour King. After all, up in those mountains it could run away from the Harley with ease And yet . . . and yet there was the matter of touring. Of Seeing America. Because once the saddlebags were packed (the agony over), when the only task for the rider was to meld himself with the surroundings, when all other jobs of the motorcycle were discarded, the KZ1300—power, sophistication and all—was just simply a pain in the neck. The fairing occupies too much of the rider's vision; you look *through* it, not over it. And the same is true of the whole bike—it forces you to pay attention to it, constantly. Like a high-strung kid in the back seat, it destroys the ambience. The land is still there, you're still there, but riding the KZ1300 isn't Touring.

The FLT, though, did everything sedately. No surprises in flight, no sudden deviations from straight ahead. You set the throttle, rest your hands lightly on the grips and devote your energy to America, not the bike. It's made easier for you by where you sit; the bike is below you, the tank almost level with your knees. The windscreen ends a few inches below eye-level, and the fairing is just above the handlebar, down, seemingly, at waist level. The operative word is unobtrusive. The distinctive Harley exhaust note softens to a purr at 60 mph or so, the vibrations trapped in rubber, and so you cruise, suspended on seat and fork/shocks, serene. It's the perfect state of mind for enjoying all that's about you. And it's why I settled, there in the chicken-fried-steak atmosphere of Bob's, on the Harley-Davidson Tour Glide as the winner of this comparison tour test.

Dean: I'm dense sometimes. It takes a

Continued

while for certain bits of logic to find a crack in my skull so they can seep into my gray matter. And so it wasn't until the last leg of the tour—the straight-as-an-arrow 300-mile grind across the desolate Mojave from Las Vegas to Los Angeles—that it all started to make good sense to me.

My problem was that I had insisted on thinking of these machines purely as *motorcycles,* and that was confusing me. Because no matter how I stacked the deck, the Kawasaki came out the better *motorcycle.* And yet almost every time I had been on the Kawasaki, I had yearned to get off of it and onto the Harley, the Inferior Motorcycle. How, I asked myself, could that be?

I'll tell you how. It's because motorcycles used for serious long-distance sightseeing are, for the duration of those trips, not so much motorcycles as they are touring . . . well, touring *things.* Most of the features that seem so vitally important on a chase down a canyon road or a daily commute or a trip across town are all but worthless on a tour. A whole new set of performance criteria moves in; and once you understand what those criteria are, once you realize that things like ease of straight-line operation, minimal operator involvement, reluctance to react quickly and an extremely low coefficient of fatigue are crucial, there's no question that the Tour Glide is The Class of the 80-inchers.

Understand, however, that I'm talking only about the way these bikes perform on a vacation, and nothing else. The other eleven months of the year, when I'd have to conduct a normal day-to-day relationship with the motorcycle, you couldn't *give* me the Harley. I don't like the way it looks, sounds, feels, goes, stops, handles or is put together. What I *do* like about it is the way it gobbles up big bites of Superslab without needing much attention from me. That's why if I had a road map, a gasoline credit card and a destination on the distant side of Far Away, only then would I choose the Tour Glide as my 80-inch mount.

Not that I'm exactly euphoric about the ultra-complicated, ultra-everything KZ1300. In my mind, it's too big to be a sportbike, too expensive to be an econobike, too boxy to be a profiler and, as our tour proved, too high-strung to be a First Class tourer. Still, though, I'd much rather co-exist with it on a year-round basis than I would an FLT. Like I said, it's a better *motorcycle.*

Thompson: There's a final message here. To say that the FLT wins this test is not to say that it's the best touring bike of my acquaintance. Its best qualities come while the wheels are rolling, and only when there are no scary things happening to mandate instant response or agility. In that instance, and—perhaps more germanely to the touring rider—in the all-important cargo zone, it falls far short of my favorite touring device, the Honda Interstate. The Interstate whispers along as effortlessly and as capably as the FLT, but adds qualities not found on the Harley, from shaft drive to waterproof liners for its saddlebags, from competent handling in almost any situation to as little change in solo to two-up riding feel as the H-D maintains.

But none of that affects this Big-Inch test. As far as I'm concerned, the things that irritated me about the Harley are all fixable, while those of the KZ just aren't—not, at least, without an engine swap. I can get liners for the FLT's bags. I can get new grips and new tires that work a little better in cornering. But what I *can't* get to my satisfaction on the Kawasaki that I can on the Harley is that magic involvement with America. And that's good enough for me.

In the end, the answer was there all along, right in front of our eyes. Because in the Eighty-Cube class, the Harley is, just as it says on its gas tank, King of the Highway. •

Pillion Report: Sitting On It

• Unless you're ready to be bashed in the ribs all the way to Toledo, it's important that your touring partner fit your motorcycle as well as you do. When there's harmony between passenger and motorcycle, riding pillion begins to take more than a back seat. It's warmer back there, for starters. And without having to concentrate on traffic or throttle, the back seat rider gets a true first-class ticket to sightseeing.

Many features of a motorcycle, like engine noise, vibration, wind-buffeting and suspension quality, apply equally to rider and passenger. The most important of these have to do with comfort. It's easy to become obsessed with seats when you're riding pillion, for example. Ideally, the passenger seat should afford some breathing space between you and the rider and give you enough room to change your position. It has to be resilient enough to keep from reminding you that the largest muscular structure in your body is the one you sit on. Footpeg placement is also important. The pegs should be in such a position that your legs hang down naturally, feet resting toes-forward on the pegs. It also helps if you can stand easily, both to see where you're going and to stretch occasionally.

Riding comfort depends a lot upon seat shape, and there was a clear difference between the Kawasaki and the Harley. The KZ1300 has a narrow bench with a concave pocket for the passenger. The Harley gives you a small bucket, narrow at the front and wide at the rear. The Kawasaki had a traditional sissy bar for a backrest while the Tour Glide was equipped with a seat back.

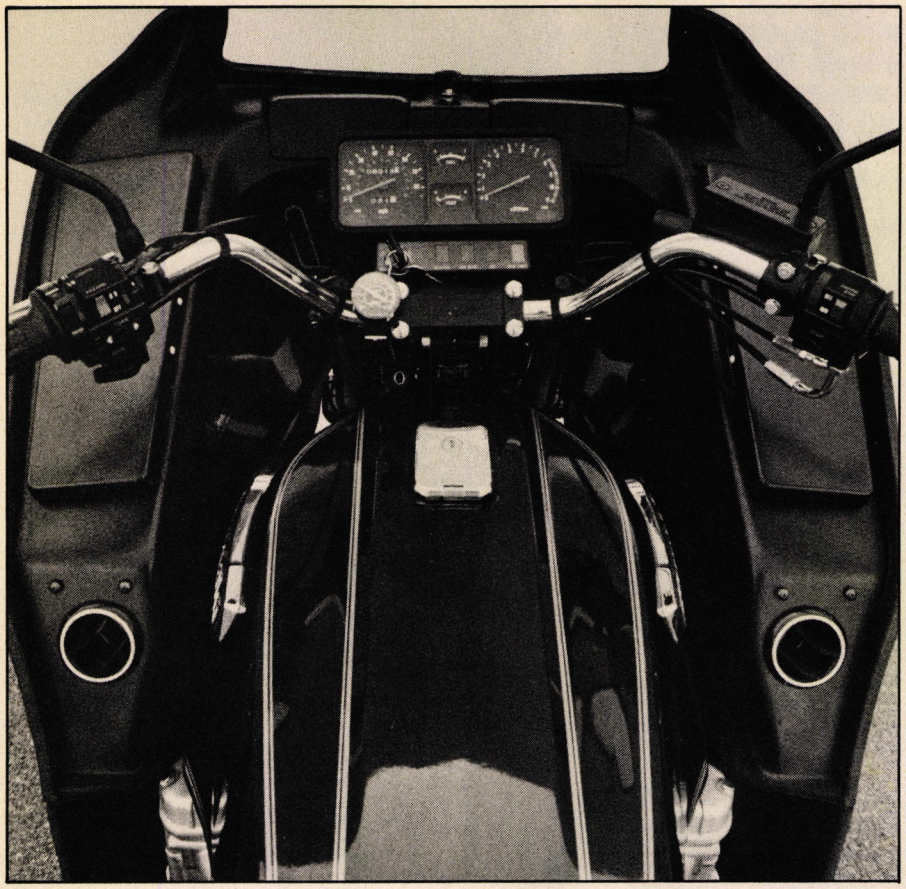
For me, the Kawasaki's pillion position was better from the start. The seat was roomy and I could see around the rider, largely because the passenger is positioned clear back over the rear tire. The pegs didn't strain my legs and there was ample distance between me and the rider so no awkward, muscle-straining gymnastics were necessary to keep my knees out of his way.

On the other hand, the Harley seat and I just didn't get along. At first it was amusing. You bounce as you ride. It's the equivalent of a B- or C-ticket at Disneyland, and it delighted my *derriere.* But for long distances, the springy seat and the chrome bars hemming in my hips made me wonder when the ride was going to be over. My trouble was compounded by the fact that there was little room between me and the rider, requiring an awkward sitting position to keep my knees out of his back. Not to mention the leaned back posture forced by the seatback and forward footpeg placement. Sure, the Kawaskai's firm seat made me numb, but the Harley's seat actually hurt. The King of the Road and I were not made for one another.

Yet, the kinesthetics of the Harley were better for me than the Kawasaki's. Wind gusts had only a minute effect on the FLT's stability, and this alone made the ride relaxing. What's more, vibration was so slight I could get a clear view of sky and shoulders in the rear-view mirrors. With the Kawasaki, though, my ears rang from the noise, my butt had left town and I was tired all over from fighting the gusts of wind that buffeted me. The ride was not relaxing or conducive to looking at the scenery.

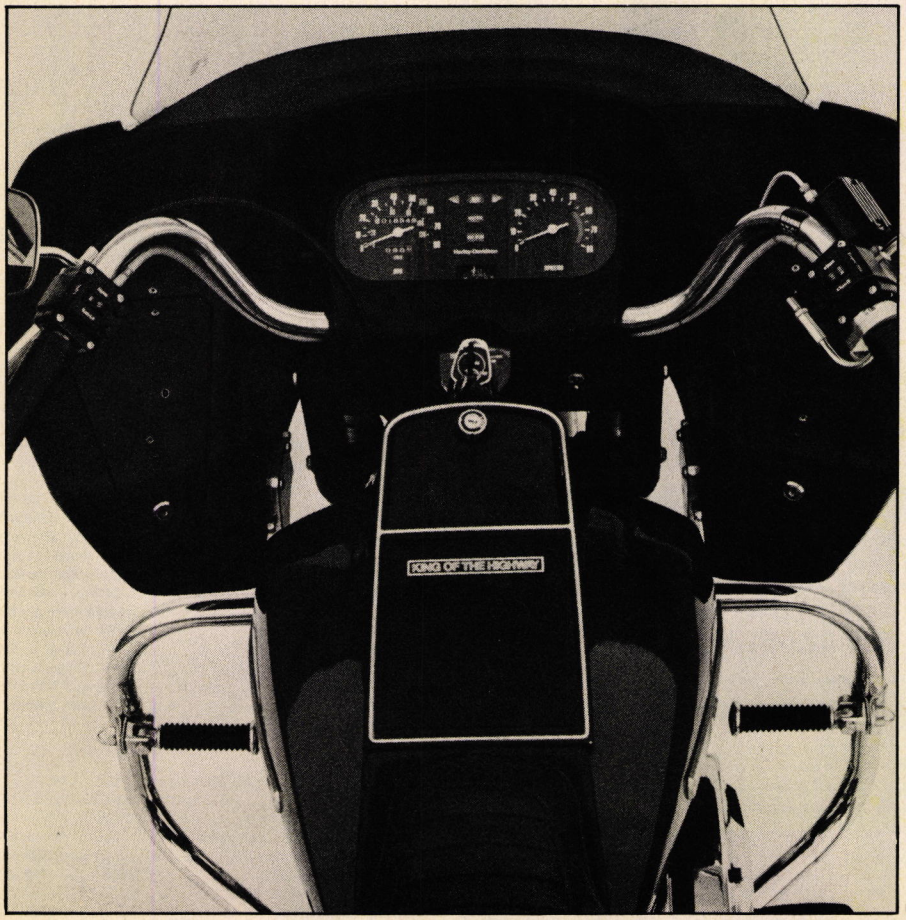
As it turns out, the ride from the pillion of these two bikes is about the same as that experienced from the front seat. That's why if given my touring druthers, I'd put a sensible seat on the Harley. But until then, I have to choose the Kawasaki as the most tolerable place to spend a week in the passenger's seat, vibration or not.

—Merry MacTavish



The Kawasaki's living-room furniture (above), the Tour Glide's (below)

Your home away from home.



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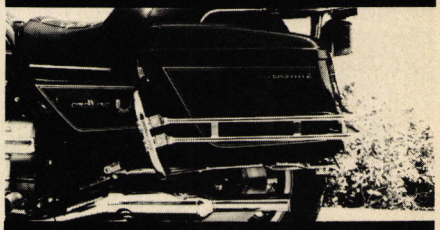
Interstate Rails



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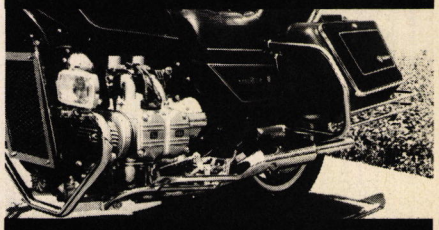
Gold Wing-Vetter Rear Safety Systems



Rider floorboards for CX500, CB-650, CB750A, CB750K, CB900, GL1000, GL1100, KZ650, KZ900, KZ1000, KZ1300, GS750, GS850, GS1000, XS650, XS750, XS850, XS11.

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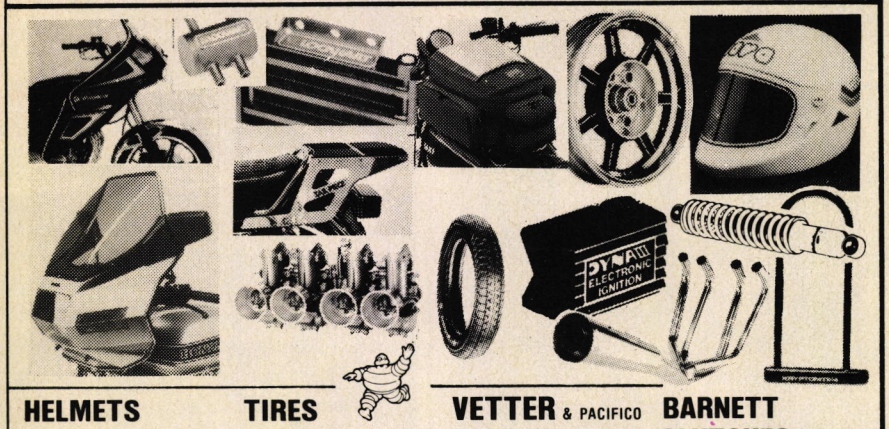

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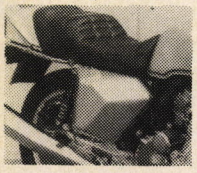

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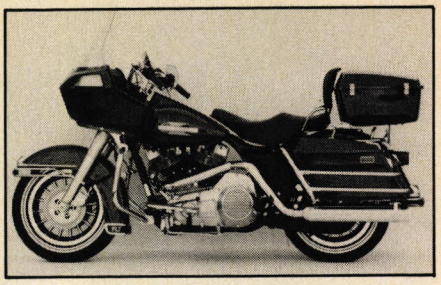


DISTRIBUTOR: Harley-Davidson Motor Company
3700 West Juneau Avenue
Milwaukee, Wisconsin 53208

CATEGORY: touring

SUGGESTED RETAIL PRICE: $6961

ENGINE

Type	four-stroke tandem vee-twin
Valve arrangement	pushrod-operated overhead valves
Bore and stroke	88.8mm x 108.0mm
Displacement	1337.7cc
Compression ratio	8.0:1
Carburetion	one 38mm Keihin butterfly-type with accelerator pump
Air filter	disposable paper element
Lubrication	dry sump
Starting system	electric only
Ignition	battery/transistorized breakerless/single coil
Charging system	12-volt; alternator, voltage regulator

DRIVETRAIN

Primary drive	double-row chain
Primary drive ratio	1.54:1
Clutch	wet, multi-plate
Final drive type	#530 chain (⅝-in. pitch, ⅜-in. width)
Final drive	22/48 :2.18:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	3.24	10.89	6.7
II	2.21	7.43	9.8
III	1.60	5.38	13.5
IV	1.23	4.13	17.6
V	1.00	3.36	21.6

SUSPENSION/WHEEL TRAVEL, IN.

Front	41mm stanchion tube diameter/5.0 in. (127mm)
Rear	5-way adjustable spring preload/3.8 in. (97mm)

BRAKES

Front	dual single-action hydraulic calipers, 10.0-in. (254mm) discs
Rear	single-action hydraulic caliper, 10.0-in. (254mm) disc

TIRES

Front	MT90-16 Goodyear Super Speed
Rear	MT90-16 Goodyear Super Speed

DIMENSIONS AND CAPACITIES

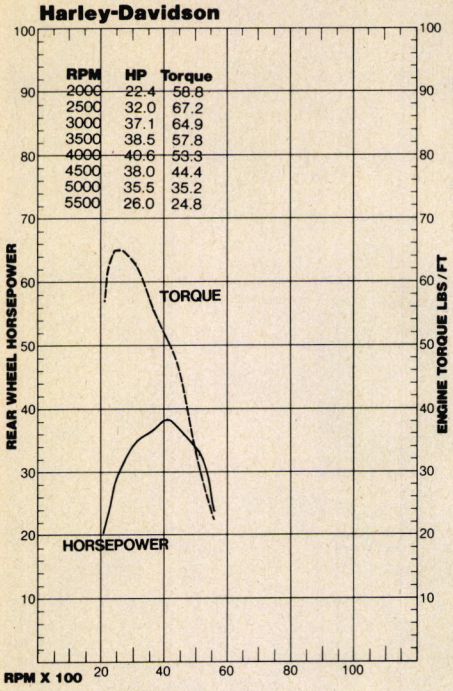
Weight	785 lbs. (356kg)
Weight distribution	42.2% front, 57.8% rear
Gross vehicle weight rating	1180 lbs. (535kg)
Wheelbase	60.8 in. to 62.3 in. (154.4 to 158.2cm)
Seat height	adjustable; lowest 32.5 in. (826mm), highest 34.5 in. (876mm)
Handlebar width	32.0 in. (813mm)
Footboard height	average 13.8 in. (351mm)
Ground clearance	6.5 in. (165mm), at brake-line bolt
Steering head angle	25 degrees from vertical
Front wheel trail	5.88 in. (149mm)
Frame	tubular and square-section mild steel, double front downtubes
Oil capacity	4.0 qt. (3.8/)
Fuel tank	steel, 5.0 gal. (19/)
Instrumentation	speedometer, odometer, tripmeter resettable to zero, tachometer, voltmeter

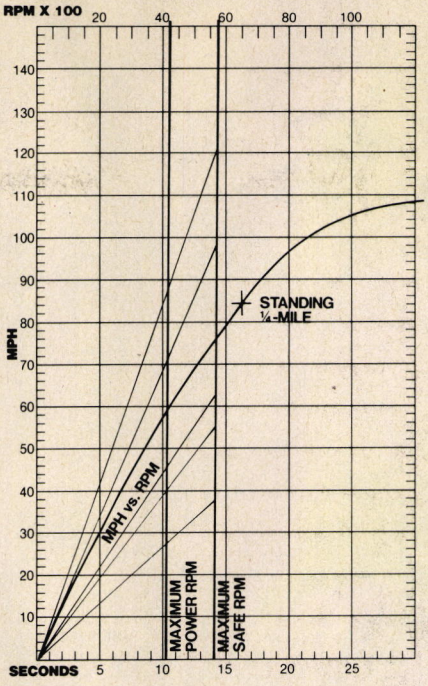
PERFORMANCE

Fuel consumption	35 to 44 mpg (14.9 to 18.7km/l)
Range, maximum	175 to 220 miles (282 to 354km)
Speedometer error, 30 mph indicated	30 mph actual
Speedometer error, 60 mph indicated	60 mph actual
Best ¼-mile acceleration	15.58 sec., 83.9 mph (135kph)
Top speed (calculated)	108 mph (174kph)
Stopping distance from 30 mph	53 ft. (16.2m)
Stopping distance from 60 mph	223 ft. (68.0m)

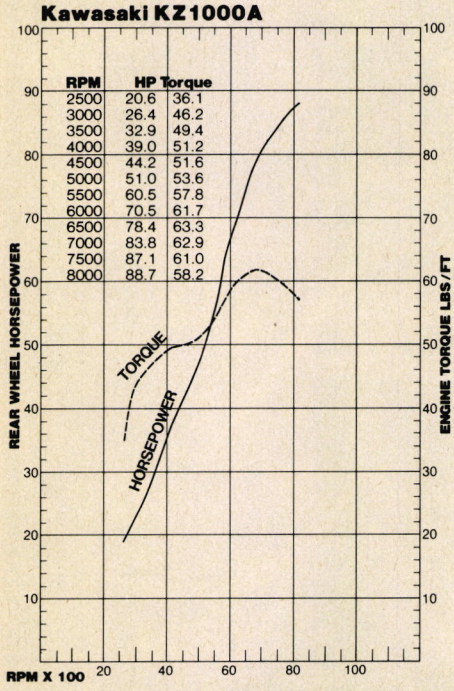
PERFORMANCE:

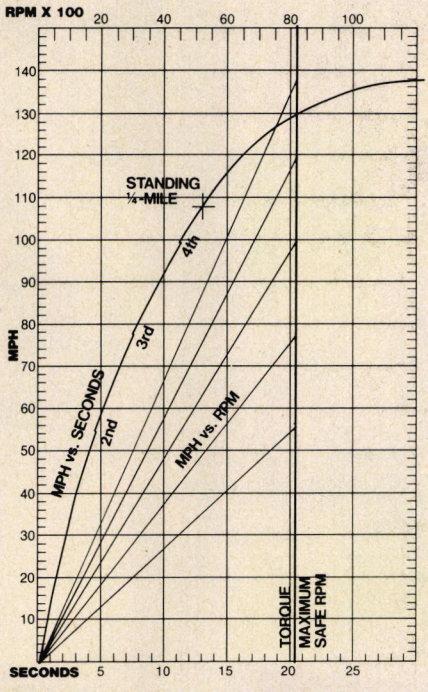
Harley-Davidson





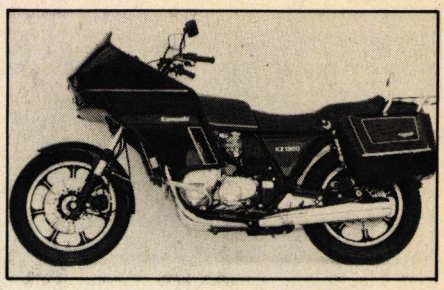
Kawasaki KZ1000A





COMPARATIVE TEST DATA:

Make	Quarter-Mile, sec/mph	Top Speed, mph	Weight, lbs	Stopping Distance From 60mph, ft.
Harley-Davidson Tour Glide	15.58/83.9	108	785	223
Kawasaki KZ1000A Gran Touring	12.71/107.4	135	730	146
Honda GL1100 Interstate	13.40/96.9	121	718	146
Yamaha XS1100F (Dressed)	13.13/105.0	134	649	NA
BMW R100T (Dressed)	13.81/92.9	119	521	142
Suzuki GS1000G	11.98/113.9	136	528	137



DISTRIBUTOR: Kawasaki Motors Corporation, U.S.A.
2009 East Edinger Avenue
Santa Ana, California 92711

CATEGORY: touring

SUGGESTED RETAIL PRICE: $6016; $4779 base price plus $1237 for accessories; less installation cost

ENGINE

Type ..... liquid-cooled four-stroke transverse vertical six
Valve arrangement ..... double overhead camshafts
Bore and stroke ..... 62.0mm x 71.0mm
Displacement 1286.1cc
Compression ratio 9.9:1
Carburetion ..... three 32mm Mikuni CV two-barrel
Air filter ..... disposable paper element
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... battery/transistorized breakerless/triple coil
Charging system .. 12-volt; alternator, voltage regulator, rectifier

DRIVETRAIN

Crankshaft-to-jackshaft drive ..... Hy-vo chain
Crankshaft-to-jackshaft ratio 1.33:1
Jackshaft-to-transmission drive ..... Hy-vo chain
Jackshaft-to-transmission ratio 1.38:1
Clutch ..... wet, multi-plate
Transmission-to-driveshaft drive ..... spiral-bevel gears
Transmission-to-driveshaft ratio 1:1
Driveshaft-to-rear-wheel drive ..... spiral-bevel gears
Driveshaft-to-rear-wheel ratio 2.65:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.29	11.20	6.8
II	1.67	8.14	9.4
III	1.28	6.25	12.3
IV	1.07	5.24	14.6
V	0.93	4.54	16.9

SUSPENSION/WHEEL TRAVEL, IN.

Front ..... air-spring, 41mm stanchion tube diameter/7.1 in. (180mm)
Rear ..... S&W air shocks/3.5 in. (89mm)

BRAKES

Front ..... dual single-action hydraulic calipers, 10.2-in. (260mm) discs
Rear ..... single-action hydraulic caliper, 9.8-in. (250mm) disc

TIRES

Front ..... MN90-18 Dunlop tubeless F-8
Rear ..... MT90-17 Dunlop tubeless K100

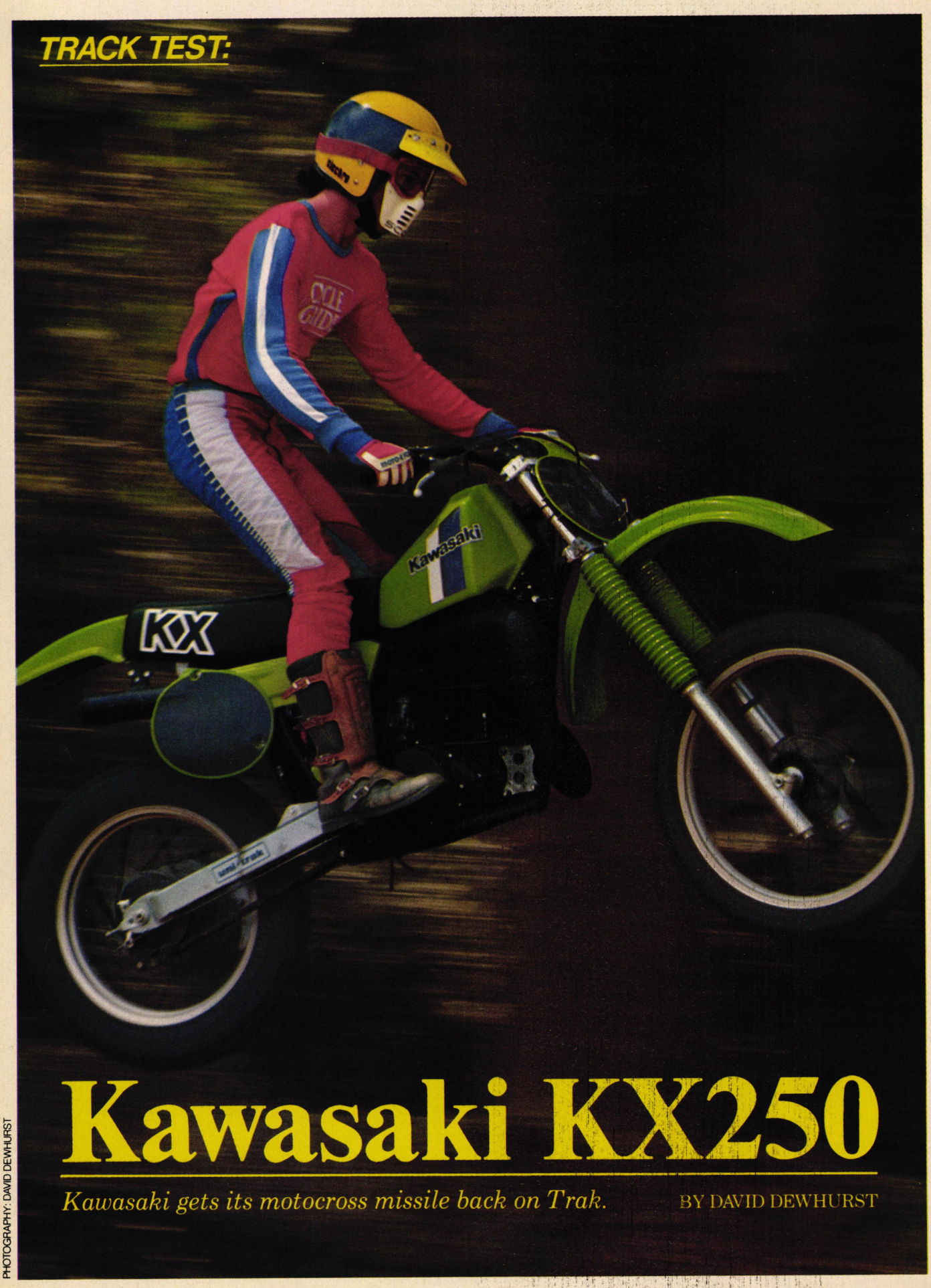
DIMENSIONS AND CAPACITIES

Weight ..... 730 lbs. (331kg)
Weight distribution ..... 46.0% front, 54.0% rear
Gross vehicle weight rating ..... 1178 lbs. (534kg)
Wheelbase ..... 62.5 in. (158.8cm)
Seat height ..... 32.3 in. (820mm)
Handlebar width ..... 31.0 in. (787mm)
Footpeg height ..... 13.2 in. (335mm)
Ground clearance ..... 5.2 in. (132mm), at centerstand
Steering head angle ..... 28.5 degrees from vertical
Front wheel trail ..... 4.0 in. (102mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 4.9 qt. (4.6/)
Fuel tank ..... steel, 5.5 gal. (20.8/), including 1.1 gal. (4.2/) reserve
Instrumentation ..... tachometer, speedometer, odometer, tripmeter resettable to zero, fuel gauge, water temperature gauge, rear suspension air-pressure gauge

PERFORMANCE

Fuel consumption ..... 31 to 45 mpg (13.2 to 19.1km/l)
Range, maximum ..... 171 to 248 miles (274 to 399 m)
Range, reserve only ..... 34 to 50 miles (55 to 80km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 60 mph actual
Best ¼-mile acceleration ..... 12.71 sec., 107.4 mph (173kph)
Top speed (calculated) ..... 135 mph (217kph)
Stopping distance from 30 mph ..... 34 ft. (10.4m)
Stopping distance from 60 mph ..... 146 ft. (44.5m)

TRACK TEST:



Kawasaki KX250

Kawasaki gets its motocross missile back on Trak.

BY DAVID DEWHURST

PHOTOGRAPHY: DAVID DEWHURST

You may not have believed that just two mechanical changes could transform a motocross bike from mediocre to magic, but they can. If you want proof, just look at the new KX250 Uni-Trak. In specification, the KX250 and KX420 are almost twin brothers. Only a smaller and lighter engine and a different rear spring and damping combination distinguish the 250. Otherwise the bikes are virtually identical. Yet as you know, twins may look alike, but they do not always behave alike. And that's exactly the case with these quasi-clones from Kawasaki's Lincoln, Nebraska manufacturing plant.

The long-awaited KX420 disappoints virtually everybody because of its oversprung rear suspension and weak engine. But because both these features have been changed for the 250-model, the smaller bike has a completely different personality. Unlike the Open-class KX, the 250 functions like a unit instead of like a gaggle of unrelated parts. The KX250 has a synergy that the 420 lacks, and that's what makes the difference between a mid-pack big-bore and a front-running quarter-liter. The KX250 isn't perfect, but it's close enough to Right to threaten the opposition and demonstrate that motocross is a game of refinement as well as innovation.

Even so, when you begin a roll-call of the KX250's specifications, it's clear that the bike unfortunately shares the 420's obesity when compared to its competition. What was the lightest 250 of 1979 has gained 14 pounds, making it heavier than some Open-class bikes and one of the portliest 250s. Kawasaki must believe that the sophistication of the new suspension set-up compensates for the fact that the KX250 weighs five pounds more than a Yamaha YZ465. Actually, on the track it is hard to detect the flab around the KX250's waist. Because the massive single shock is mounted vertically behind the engine, all that extra weight is low and very close to the bike's center of gravity. Better still, the long box-section aluminum swingarm carries very little unsprung weight.

While the KX250 carries its Uni-Trak in the same spot as does the 420, everything else about the suspension unit is different. Kawasaki decided that a softer spring and damping unit would be appropriate for the lighter 250. That was the right idea, but someone must have pushed the wrong buttons on the Kawasaki calculator. While the 250 is seven percent lighter than the 420, it carries a spring with a 25 percent softer rate. That means either that the 420 is vastly oversprung or the 250 is too soft. And as *CG*'s test of the KX420 in the July issue and a few moments on the track with the KX250 prove, it is the suspension sums for the quarter-liter racer that have been added up correctly.

From the first, our four test riders—who vary in weight as much as they do in ability—found the KX250 Uni-Trak suspension to be very good. With the screw-adjuster that determines spring preload dialed to the center position and the damping set to the second of four notches, the KX250 hustled around the racetrack in a way the 420 never could. A simple reduction in spring rate compared to the KX420's rate permits the KX250's Uni-Trak to function as Kawasaki's engineers intended.

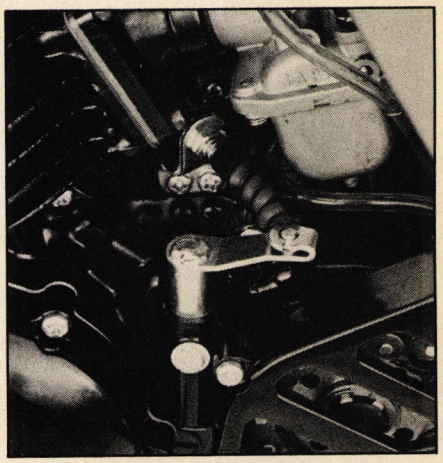
And what those engineers intend is a virtually linear wheel rate (contrary to popular belief) rather than the rising rate that so easily could have been dialed into the rear end's geometry. That means the Uni-Trak suspension damps inputs with the same force at the end of its travel as it does at the beginning. The problem with a linear rate is that in order to prevent the suspension from bottoming while simultaneously keeping it responsive enough to follow small bumps, a dual-rate spring is usually called for. Strangely enough, though, the KX250 has only a single-rate spring, which means that compromises in performance are apparent at both the beginning and the end of suspension travel.

For example, the rear end is a little too hard in most circumstances. The rear wheel skitters around a hard, pock-marked track and the Uni-Trak will not respond quickly enough to absorb the blows from abrupt holes in the surface. And yet as the Uni-Trak reaches full compression, the wheel rate actually falls slightly, permitting the suspension to bottom—behavior which is opposite to that of most suspension designs. Even so, it's only the single-rate spring that keeps the Uni-Trak from greatness in this bike. A change to a dual-rate spring would prove to be a significant advantage.

While Kawasaki engineers were busy adapting the Uni-Trak for the KX250, they apparently forgot to change the front fork at all. It's identical to the 420's, with 38mm stanchion tubes held by triple clamps with double pinch bolts. The same spring with a 36 lb./in. rate can be found within the stanchion tubes, and 4.3 psi of air pressure is specified as well. And it's probably a good thing, for the fork was one of the best things about the KX420 and it works just as well in this application. This Kayaba unit is the state-of-the-art and handles anything in its path with ease. Everything from small braking ripples to horrendous holes disappear without a trace

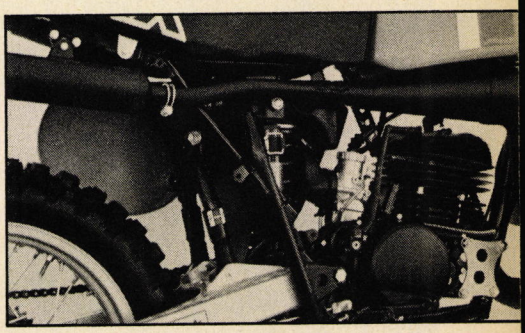
inside the fork tubes before they can attack your shoulders. And because this fork is matched to an improved rear end, it feels far more stable than with the KX420.

Because they share virtually all the same parts, the KX250 and KX420 should handle precisely the same. But they do not. Where the 420 felt imprecise at best and unpredictable at worst, the KX250 always proves reassuring, despite the fact that the Bridgestone M17 front tire hampers control. Unlike so many front-wheel biased handling packages in motocross these days, the KX250 likes to back into corners with its rear wheel and drift around in a



Pushrod clutch action, not rack-and-pinion

Narrower width, better disengagement.



Damper and spring work in harmony

Shocking proof that Uni-Trak works.

Continued

classic cross-up. That is, it likes to get sideways and slide. You can play flattracker with this bike until your neck gets stiff from looking over your shoulder to see where you're going. The KX420 certainly didn't like that sort of cornering attitude. The 420 also had a hard time finding front-wheel traction, persistently plowing wide of your line. The KX250 front end steers far more accurately. While it's not on the same order as a Suzuki, a Maico or even a Yamaha, it's on the right track.

The only place on the racetrack where the KX250 loses its composure and begins to send you confusing signals is in very deep whoops. Because of the slightly stiff rear spring, the rear end tends to kick. You'd think such sudden gymnastics would cause a problem because of the KX250's excess weight, but thanks to the low center of gravity you seldom get crossed up and in an untenable position.

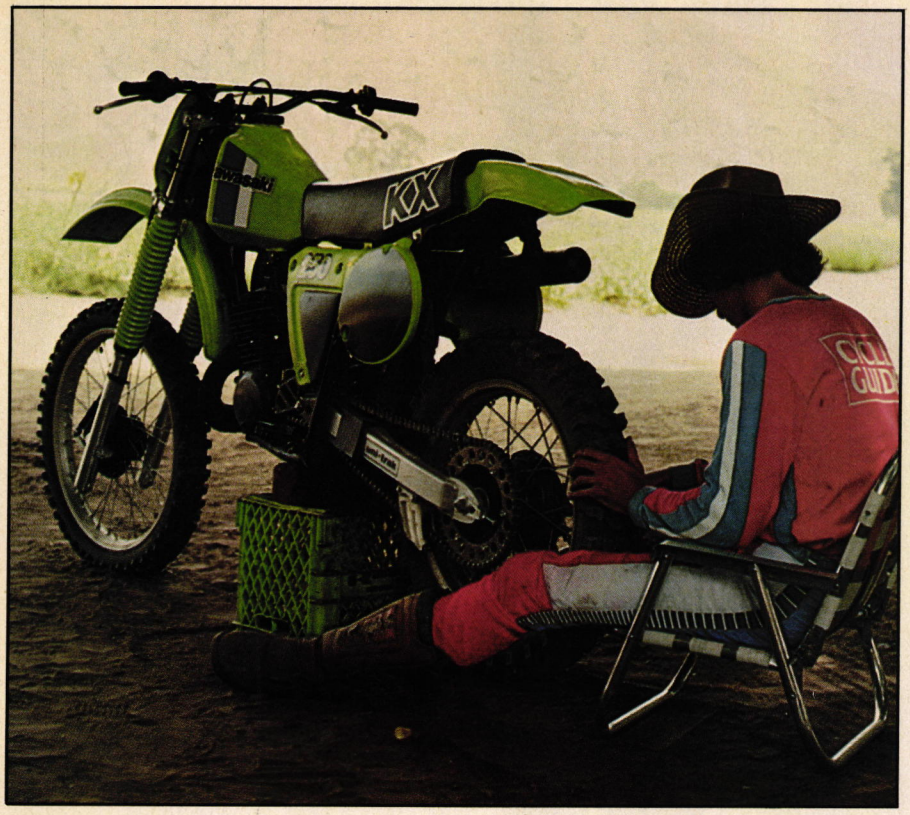
Indeed, when it comes to weight, you rarely notice the KX250's fat factor on the track except for the strain it places on the engine. Fortunately, the revised KX250 engine is up to the task. It's got a fair amount of grunt by 250 standards, churning out a respectable amount of torque at 1000 fewer rpm than last year. It doesn't have quite the bottom end of a Honda CR250 or the top end of a YZ250, but it does have a nice balance of the two. In many ways, it emphasizes a usable midrange to the exclusion of the extreme ends of the horsepower spectrum.

A number of internal changes to the A5 configuration account for the bike's recalibrated powerband. The bore and stroke remain the same, and of course Kawasaki still employs its patented Electrofusion process to coat the cylinder, but the piston now uses a Keystone ring instead of a Dykes ring. The exhaust port has been enlarged to provide another degree of duration, helping the engine to rev higher and produce more horsepower. At the same time, though, ignition timing has been retarded to 17 degrees BTDC from 28.5 degrees BTDC for more midrange and has been complemented by a different pipe. Also, the ignition rotor has been lightened.

While these changes seem confusing, a mixture of high- and low-rpm think, the net result is a healthy amount of midrange and Kawasaki has revised the gearing appropriately. The jump from first gear to second is slightly wider, while the final-drive ratio is taller. In addition, a more efficient shifting mechanism has been fitted and the kickstarter from the KX125 engine adapted. The clutch also has two more plates than before while the actuating arm has been relocated in the interests of narrowing the engine.

In performance, the KX250 engine is very easy to get along with. It rarely requires more than a single kick to start, although big boots may hit the footpeg at the end of the stroke. The clutch is light and easy to modulate. Away from the line, it's easy to hook up in first gear, and as you charge toward the first turn each gear snicks into place silently and smoothly.

The only problem with the engine is the



relationship of the footpegs to it. My size-12s caught the swingarm bolt on the left side and occasionally prevented me from getting my foot off the peg to complete a shift. But even when I couldn't get at the shift lever, a single fan of the clutch was usually enough to get me rolling again because the 250 engine responds to this technique just like the 420. Unlike the 420 engine though, the 250 has plenty of horsepower to back you up. Power does tend to fall off quickly once you reach the power peak, but using the torque peak and short-shifting will help you hold your own against the best quarter-liter engines.

After the KX250's engine gets you going, you can get stopped very quickly, thanks to a pair of brilliant brakes. The full-floating rod-operated rear drum works just as superbly as the front binder. They're both strong and deliver lots of feel, so even panic stops aren't really frightening.

There are a few flaws in the KX250 package, though. First of all are the terrible grips common to all Kawasakis. Just like racquetballs, they're small, hard and black. And as long as you're buying some aftermarket replacements for the grips, you might pick up a batch of nuts and bolts. Kawasaki must have a huge supply of metric bolts and nuts in odd-size lots, for a wide variety of sizes can be found throughout the KX250. Just about every bolt seems to be a different size, and you'd need a good-size tool chest to carry enough wrenches to keep them all cinched down.

Even though Kawasaki deserves criticism for the assortment of nuts and bolts, it must be complimented on the detail finish of this bike. The plastic is strong, and unsurprisingly all-green except for the airbox. Also, the cover of the airbox seals tightly, preventing mud and water from winding their way inside. It also unfortunately presses directly against the filter and obstructs a great deal of potential breathing area.

When you come right down to it, the KX250 leaves you with a totally different impression than the KX420, no matter how close the bikes might be in specification. The 420's engine and Uni-Trak were clearly off-target, and while everything else about the bike seemed to be in the ballpark, the whole package just didn't mesh. The result was a frustrating motorcycle that just couldn't do anything right. But because the engine and rear suspension of the KX250 work as they should, the bike takes to the racetrack as a whole instead of a random assortment of unrelated parts. This incredible difference in performance caused by only two changes proves once again that in motocross the whole is greater than the sum of the parts. So, while the KX420 may not have given Uni-Trak a good reputation, the KX250 will change your mind because of the honorable way it upholds the family name. •

Ride Review

• I guess I'm getting a little bored with motocross bikes that follow around their front tires obediantly. I guess I'm a little tired of their tyrannical handling habits that force you to ride in the classic, Roger De Coster, slow-entry-fast-exit fashion. I guess what I need to stimulate my motocross senses is a strong dose of real wild-in-the-berms handling, a heavy hit of sideways think.

And backing into berms with the KX250 Uni-Trak restores my faith in motocross bikes again, for the 250 likes nothing better than to negotiate the corners with the handlebar at full lock, the rear wheel breaking trail for the front and the engine wailing. In a lot of ways, the KX250's talent for sideways maneuvering and its stability in the straights reminds me of an old YZ.

I've got no illusions about the KX's ability to win races, of course. It's best suited for fast tracks instead of the rugged, European-styled obstacle courses where bikes like the RM250 do well. But I think that's a pretty good deal. In fact, the KX250 is my first pick for second place, the 250 I'd rather ride than any other except for YZ250G. And that's a pretty good recommendation coming from me.

Besides, you can't win races on a 250 MX bike that's less boring than this all-green single-shocker. —*Michael Jordan*

• This KX250 is the sneakiest motocross bike I've ever ridden. Because somehow, whether through voodoo, black magic or tractor beams from the Starship Enterprise, it's able to defeat the unbending laws of Father Physics.

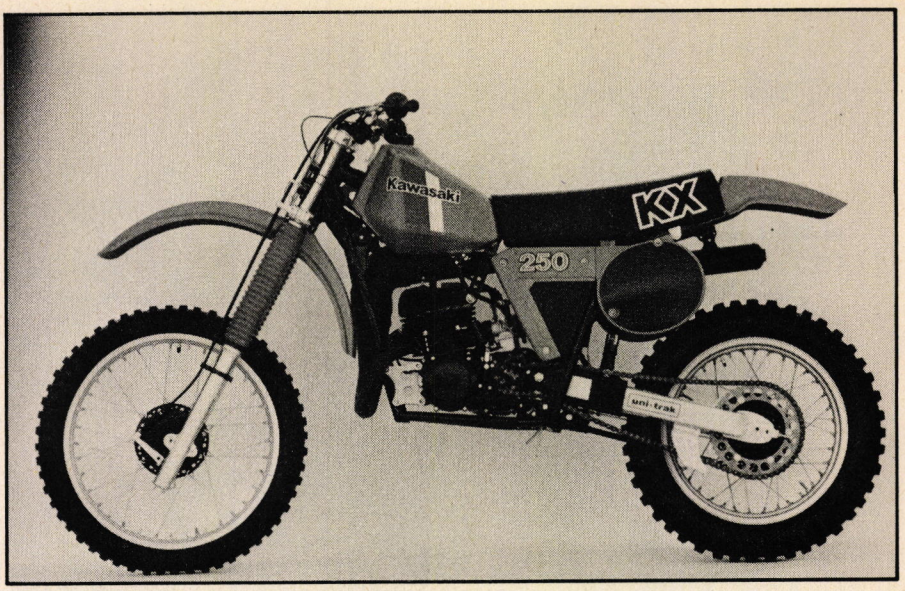
Want some examples? Try these: The KX weighs 233 pounds, more than any other serious 250 in recent years, yet it feels no heavier than the lightest bikes in the class. Its rear suspension seems sprung and damped much too stiffly when you bounce on it, yet it feels only slightly firm out on the racetrack. It generates less peak power and torque than last year's KX250, yet it feels faster. It is, for most intents and purposes, the very same machine as the awkward, uncooperative KX420, yet it is so graceful and friendly that it feels like an entirely different motorcycle. No matter what area of the bike is in question, it *feels* dramatically different from the way the specifications say it should feel.

What that means is that although the KX appears, on paper, to be a loser, it isn't. Instead, it's one of the most competent racers in the 250 class. It might not be quite on par with the fabulous YZ250, but it's more forgiving than an RM250 and better-suspended than a CR250. And that's one thing about the KX250 that is no illusion.

—*Paul Dean*

Continued

Kawasaki KX250



SPECIFICATIONS:

IMPORTER: Kawasaki Motor Corp., USA
2009 East Edinger Avenue,
Santa Ana, California 92711

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $1849

ENGINE

Type ..... two-stroke vertical single
Port ..... one reed-valve-controlled inlet, four main transfers, one booster transfer, one exhaust

Bore and stroke ..... 70mm x 64.9mm
Displacement 249cc
Compression ratio (corrected) 7.6:1
Carburetion ..... one 38mm Mikuni slide/needle
Air filter ..... two-stage washable foam element
Lubrication ..... pre-mixed fuel and oil
Starting system ..... primary kick
Ignition ..... flywheel-magneto CDI
Charging system ..... none

DRIVETRAIN

Primary drive ..... straight-cut gears
Primary drive ratio 2.750:1
Clutch ..... wet, multi-plate
Final drive type ..... #520 chain (⅝-in. pitch, ¼-in. width)
Final drive ..... 14/48 :3.428:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.133	20.11	3.8
II	1.687	15.90	4.9
III	1.388	13.08	5.9
IV	1.160	10.94	7.1
V	1.00	9.43	8.3

SUSPENSION/WHEEL TRAVEL, IN.

Front ..... air-spring, 38mm stanchion tube diameter/11.3 in. (287mm)
Rear ..... 20mm spring preload adj. damping 4-position adj./11.2 in. (285mm)

BRAKES

Front ..... drum, single-leading shoe
Rear ..... drum, single-leading shoe, rod-operated

TIRES

Front ..... 3.00x21 Bridgestone Motocross M17
Rear ..... 5.10x18 Bridgestone Motocross M20

DIMENSIONS AND CAPACITIES

Weight ..... 233 lbs. (106kg)
Weight distribution ..... 46.5% front, 53.5% rear
Wheelbase ..... 59.0 in. to 60.5 in. (150 to 154cm)
Seat height ..... 37.8 in. (960mm)
Handlebar width ..... 32.7 in. (832mm)
Footpeg height ..... 16.5 in. (419mm)
Ground clearance ..... 13.5 in. (342mm), at frame cradle
Steering head angle ..... 28.0 degrees from vertical
Front wheel trail ..... 4.7 in. (120mm)
Frame ..... tubular chromoly steel, single front downtube

Fuel tank ..... plastic 2.2 gal. (8.3/)
Instrumentation ..... none

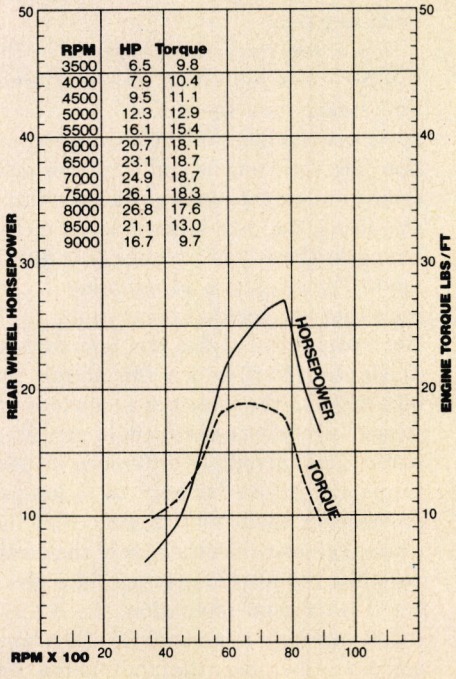
PERFORMANCE

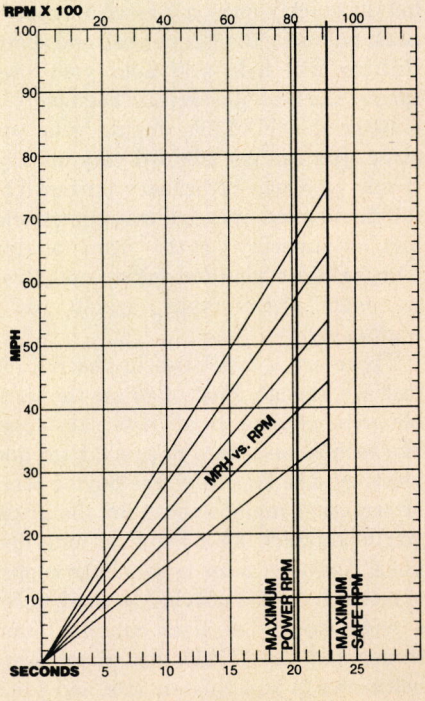
Top speed (calculated) ..... 66.4 mph (107 kph)

COMPARATIVE TEST DATA:

Make & Model	Horsepower	Wheel Travel Front/Rear, in.	Weight (fuel tank empty), lb.	Weight bias Front/Rear percent	Transmission, number of speeds
Kawaskai KX250 A6	26.8	11.3/11.2	230	45.6/53.5	5
Kawaskai KX250 A5	27.9	11.0/10.9	219	47.0/53.0	5
Honda CR250R	27.5	11.6/11.7	222	47.0/53.0	5
Yamaha YZ250G	27.5	11.6/11.7	217	46.5/53.5	6
Can-Am 250 MX-5	32.1	10.8/10.0	218	45.9/54.1	5
Husqvarna 250CR	24.3	11.8/11.8	227	44.5/55.5	5

PERFORMANCE:





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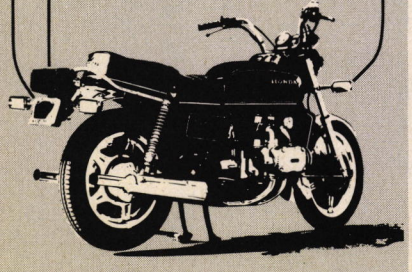

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PRODUCT EVALUATION:

SOFTWARE SADDLEBAGS

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• It's easy to poke fun at fiberglass saddlebags because they look like elephant ears on a motorcycle. But they carry more than jokes on a trip; they carry your luggage.

Also popular with tourers are software saddlebags like these from Second Story Leather Shop. Soft saddlebags are enjoying a renaissance for two major reasons: They're lightweight and are easily removed when not in use. But while soft bags are less bulky than the fiberglass variety, most don't provide weatherproofing and bump-protection for the gear inside.

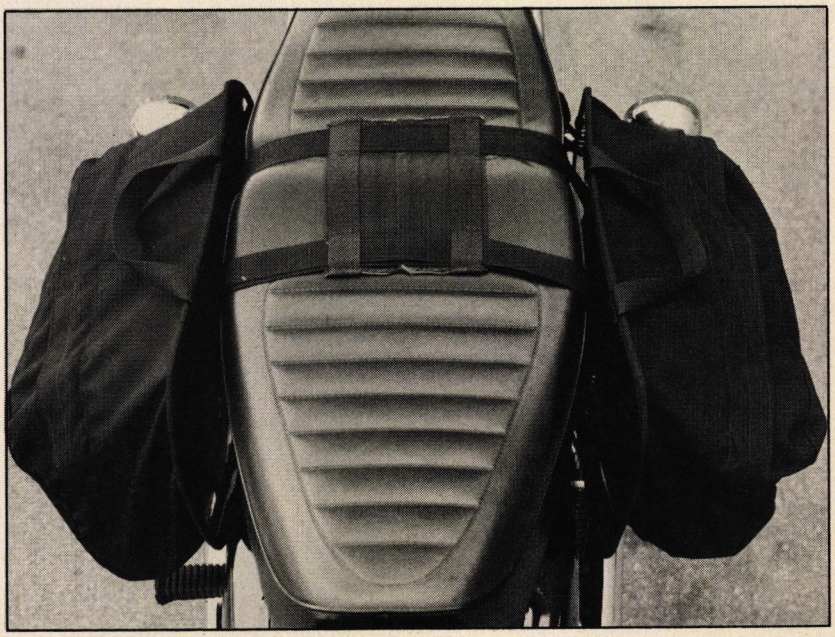
The Leather Shop name might be misleading—the bags are actually made of Cordura nylon. The 11x16x8-inch nylon bags get support from Neolite rubber backing plates that also serve to protect the articles inside from banging on the bike's exhaust pipes.

With two adjustable nylon straps, the bags sling across just about any motorcycle seat. Each bag has three 28-inch ties to secure it in position. The ties are too short to do the job, though, making it difficult to fasten all three to the frame. But with the straps cinched up tight and at least two ties fastening each bag to the bike, load flop or shift was minimal.

Getting inside the bag should be simple: Undo the one-way zipper that runs along the top side of the bag, then help yourself to what you need. However, the Velcro strip sealing the zipper flap makes it difficult to work the zipper. Our test bags had inch-wide strips, while later production bags will have only ⅝-inch-wide strips of the clinging stuff. Regardless, the flap isn't needed for rain protection, since the nylon isn't waterproof anyway. Plastic sacks that could just as well have been oversized sandwich bags are included to pack gear for rain riding.

While the Second Story bags don't hold out the rain, they're well-constructed so they'll hold in your gear. As proof, during our testing a heavy twin-cylinder crankshaft was carried in one, with no seam splitting. The $79 price may seem a little steep, especially when you figure that some large-capacity tank bags cost less. Even so, these soft saddle bags nearly double the storage space of most tank bags. Further, unlike tank bags, these detachables stay to the back of the seat and out of the way. You can buy the saddlebags from the Second Story Leather Shop, 30 N. Maple Street, Florence, Massachusetts 01060.

—Dain Gingerelli



Dumbo's dufflebags

Seat-straddling saddlebags.

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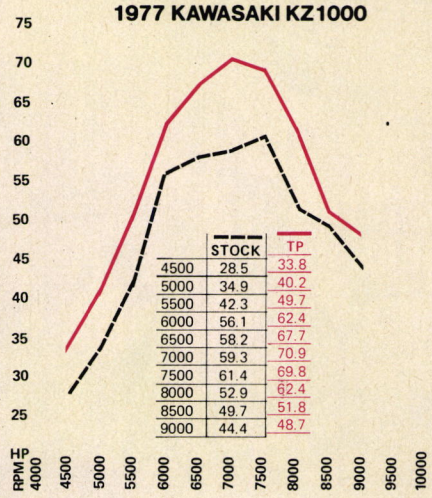
1977 KAWASAKI KZ1000



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4500	28.5	33.8
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5500	42.3	49.7
6000	56.1	62.4
6500	58.2	67.7
7000	59.3	70.9
7500	61.4	69.8
8000	52.9	62.4
8500	49.7	51.8
9000	44.4	48.7

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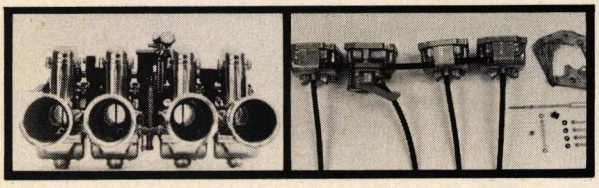

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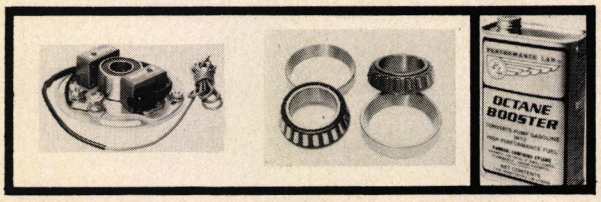

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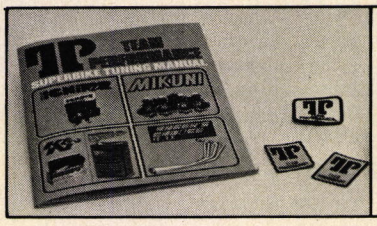

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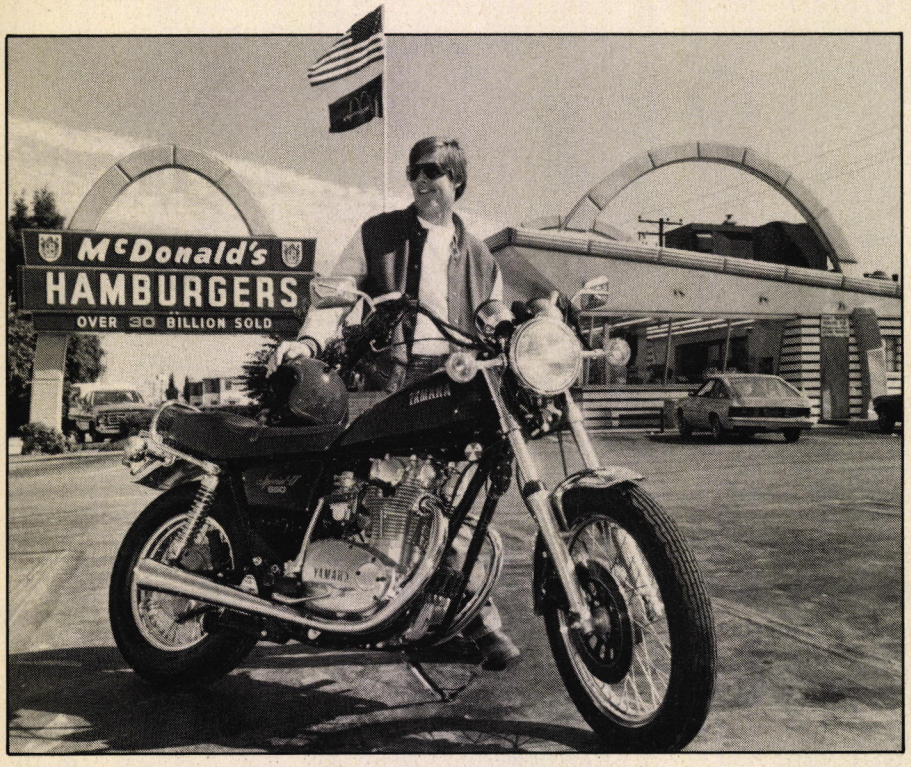
MINITEST:

Yamaha XS650G Special II

Reliving the American Dream.



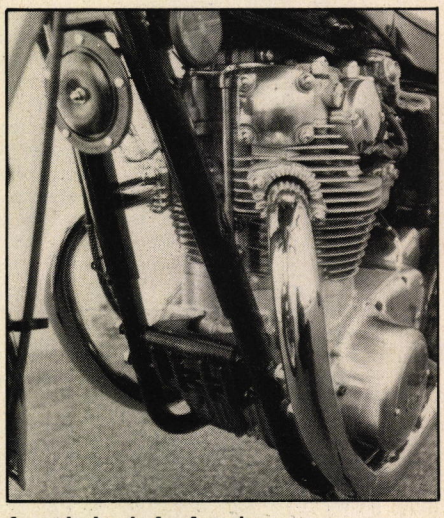
DAVID CLARK

Big Mack stands beside the majestic twin of the seventies

"Make that a double—easy on the vibration and a kickstarter on the side."

Yamaha's 650—just like a Bonneville

Laced with external oil lines.



A vertical twin for America

But it's still made in Japan.

• Remember when hamburgers cost 15 cents and a real motorcycle cost less than $2000? Well, at least you can still buy a real bike for less than $2000. Yamaha's XS650G Special II, as a matter of fact.

You might have thought that $2000 bikes were of the same quality as 15 cent hamburgers these days, but you're wrong. You get a fair amount of motorcycle for your $1998, and there are a couple of reasons why. First of all, the XS650 design dates from the 1970 XS-1, Yamaha's first four-stroke street bike, and a decade's profits have absorbed tooling costs. Second, the Special II version makes do with tube-type tires, a rear drum brake and wire wheels to squeeze beneath the $2000 barrier. The other XS650 Special version gives you a rear disc brake, cast wheels and tubeless tires, but at the price of 11 pounds and $401 more.

Low cost alone doesn't account for all the Yamaha 650s you see on the road these days. And there are a lot of them—the XS650 outsells every bike in Yamaha's lineup, from XS Eleven to YZ80. The reason lies in the way this bike looks. What we've got here is the spitting image of a motorcycle as American as the Big Mac—the Triumph Bonneville custom.

Yamaha took the Bonneville as the model for the 650 from the moment the XS-1 rolled off the assembly line, as that bike's proportions and paint scheme attest. And when Yamaha realized the custom look had a powerful appeal all across the continent, it debuted its new Special look on the 1977 XS650. Even while other Yamaha Specials have evolved different seats, grabrails and taillights since then, the 650 has kept the traditional look alive and intact. The Special II version of the 650 actually comes closest to recreating the Triumph custom because of its wire wheels and drum brake, executing the concept far better than Triumph's own "Special" with its mag wheels and two-into-one exhaust.

You get more than a visual replica of the Bonneville custom with the Special II, you get a mechanical one as well. It's vibrant with all the sensations of Sixties motorcycling. As soon as you prod the vertical twin into life with the kickstarter (although an electric starter is provided for non-traditionalists), the rolling boom from the twin megaphones reminds you that motorcycles

Yamaha XS650G Special II

Importer: Yamaha Motor Corp., U.S.A.
6555 Katella Avenue
Cypress, California 90630

Category:	street
Suggested retail price:	$1995
Engine type	four-stroke vertical twin
Valve arrangement	pushrod-operated overhead valves, two valves per cylinder
Bore and stroke	75.0mm x 74.0mm
Displacement	653cc
Carburetion	two 34mm Mikuni constant-velocity
Gearbox	5-speed
Final drive ratio	2.00:1
Front fork / wheel travel	35mm stanchion tube diameter / 5.8 in. (147mm)
Rear shocks / wheel travel	5-way adjustable spring preload / 3.3 in. (84mm)
Wheelbase	56.1 to 57.2 in. (142.4 to 145.3cm)
Seat height	30.7 in. (780mm)
Weight	463 lbs. (210kg)
Fuel consumption	56 to 59 mpg (23.8 to 24.7 km/l)

used to clatter with animation instead of purr with abstract sophistication. Nostalgia will grip you, too, as you put the XS650 into gear, because the transmission thunks and clunks with all the character of a right-hand shift Triumph four-speed. Still, the clutch doesn't chatter like it did a few years ago, so you don't have to be especially skilled to coordinate the controls, even if they are high-effort.

Riding the 650 brings you back to motorcycling reality, too. There are no counterbalancers to cancel the resounding power pulses, although as a concession to comfort the engine is mounted in rubber. The combination of a stiff, short-travel suspension and a less-than-plush seat (one inch thinner this year) insure that you feel every change in the road surface. The tires follow every longitudinal crack and seam in the pavement, so the 650 likes to dance around on freeways.

Since the 650 isn't a long-distance Interstate creampuff like the XS Eleven Special, you're better off to abandon the straight and narrow for winding country roads. The 650 likes to loaf along at 3500 rpm. You use the substantial torque churned out by the 360-degree crankshaft to scoot from corner to corner without resorting to the gearbox, the engine shuddering pleasantly. The 650 doesn't handle like a Bonneville, though. There's not much ground clearance and the steering is tentative and imprecise. In addition, the brakes don't provide much stopping power. A relaxed ride is what this bike is made for, not peg-scratching forays on racer road.

The XS650 Special comes up short when you realize that motorcycles have come a long way in functional terms since 1970—especially when you consider the 650 was somewhat antiquated even for 1970. Nevertheless, no motorcycle can surpass it for the way it brings you back to your roots as a biker. All the extraneous hardware that has puréed the modern motorcycle experience like baby food has been pared away from the 650 Special II. This bike isn't a stripper, a collection of low-tech pieces gathered to insure a sub-$2000 pricetag. It is instead a motorcycle that incorporates only the essentials.

There's probably a lot to be said for building a repli-bike in 1980. A fair amount of riders are weary of the unending succession of technomarvelous bon-bons from Japan. And in contrast, the XS650 seems as authentic and enduring as the American Dream, the kind of true-grit motorcycle every boy dreams of owning. And thanks to the Special II's $1998 pricetag, just about every boy can fulfill that dream.

—Dain Gingerelli

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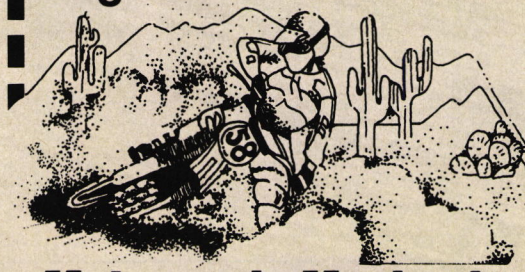

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ASK THE MAN WHO DRAWS ONE:

Designing the Better Bike

And Suzuki said, if they think they can design a better bike than we can, then let them try it. And lo! They did. BY STEVE THOMPSON

Motorcycles usually are conceived, designed and styled with very little input from the one person for whom it's all done—you, the rider/buyer. In fact, "usually" may be understating the case. In virtually all the history of the motorcycle, little or no effort has been expended by the manufacturers to bring you, the eventual buyer, into the development process.

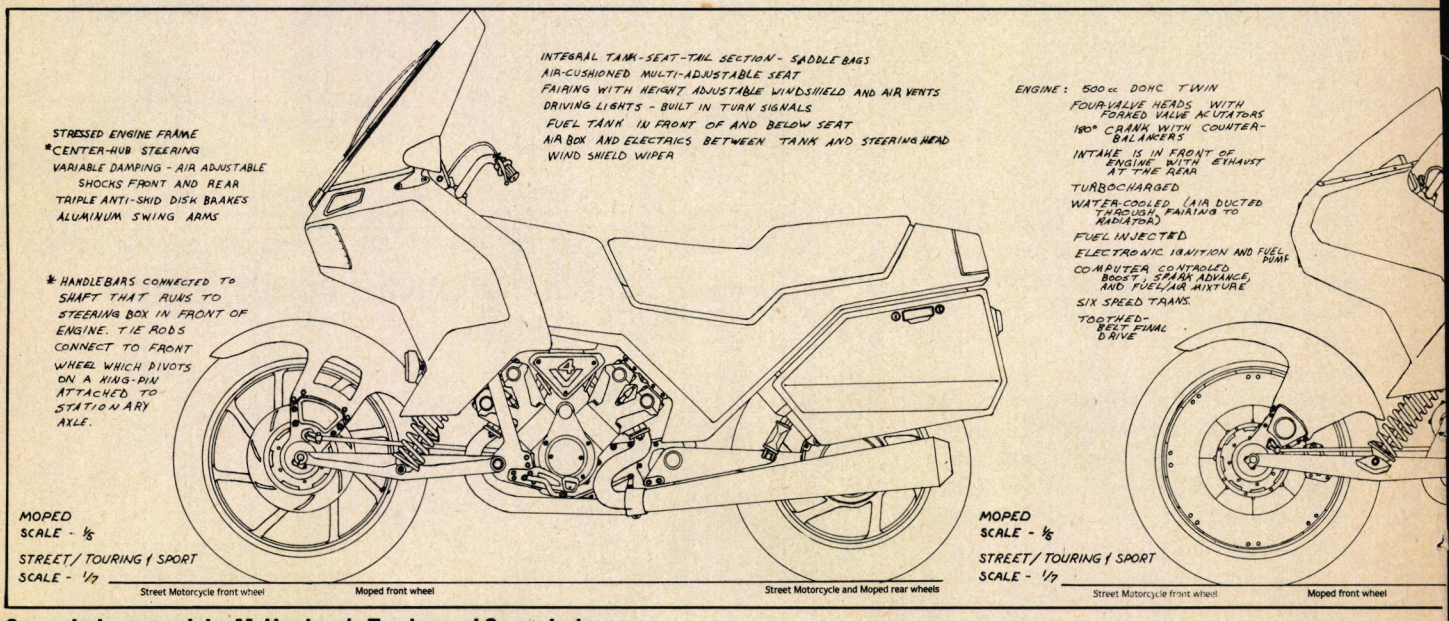
The manufacturers, for their part, have found the conventional method of using only employees to be pretty serviceable for a number of reasons. Prime among them would be the availability on-staff of experienced motorcyclists who *should* have a finger on the pulse of their buyers. This explains why the motorcycle makers in Japan, America and Europe seldom even resort to public styling clinics, as their automotive counterparts so often do. Results: You are number-crunched into a demographic profile, your tastes, hopes, fears and aspirations mashed together with your income and buying habits, and your bike is designed not to fit you, but your "market."

Another result is one U.S. Suzuki can give you a rueful earful about: Sometimes the market research guys blow it. Sometimes the in-house bikers get all excited about a project and the market guys approve it—and then nothing happens on the showroom floor. And the RE-5, say, sits there, technical-masterpiecing itself into oblivion. Or the brilliantly engineered GS four-strokes get a fast reputation as smart but plain-jane.

These kinds of results have led Suzuki to experiment with other forms of pulse-taking. One of them is the Suzuki Design-a-Better-Bike Contest. The brain child of the Suzuki product development people, the contest was conceived specifically to plunge past the groups that the designers hear most often from—the dealer councils, the press, the professional designers, the market-research boys—to snatch, uncut and unabridged, the very hopes and dreams of Mr. Everyrider. Nobody at U.S. Suzuki claims that this idea was new—even Suzuki itself has run similar contests in Japan—but since Suzuki motorcycles seemed to have taken so much heat for their styling in the last decade or so, the product development folks reasoned that a simple contest to lure the thoughts of the usually unheard-from might yield a nugget or two of truth, Man-in-the-Street fashion.

Consequently, the rules were kept minimal and loose. Suzuki ran an advertisement in three bike publications on a one-time basis only, concentrating on the pre-Christmas period. The ads instructed the would-be revolutionary designer to get an application from his local Suzuki dealer, turn it over and draw his exotibike for the street. He could draw a moped, a sport bike or a touring bike. Aside from that, things were loose; use ink only, be sure you fit into either the over-18 years old category or the under-17 category, sign the statement affirming that you aren't a pro designer or training to be one, get the thing to Suzuki by March 5, 1980 and, if you won, collect your prize.

The five months should have been plenty for all the budding Francesco X. Bultos in America, and by the time the gate slammed shut on the contest there were 538 entries. For the numerically inclined, a comparison of who the entrants were and what they drew looks like this: 199 un-


STRESSED ENGINE FRAME
*CENTER-HUB STEERING
VARIABLE DAMPING - AIR ADJUSTABLE SHOCKS FRONT AND REAR
TRIPLE ANTI-SKID DISK BRAKES
ALUMINUM SWING ARMS
* HANDLEBARS CONNECTED TO SHAFT THAT RUNS TO STEERING BOX IN FRONT OF ENGINE. TIE RODS CONNECT TO FRONT WHEEL WHICH PIVOTS ON A KING-PIN ATTACHED TO STATIONARY AXLE.
INTEGRAL TANK-SEAT-TAIL SECTION - SADDLE BAGS
AIR-CUSHIONED MULTI-ADJUSTABLE SEAT
FAIRING WITH HEIGHT ADJUSTABLE WINDSHIELD AND AIR VENTS
DRIVING LIGHTS - BUILT IN TURN SIGNALS
FUEL TANK IN FRONT OF AND BELOW SEAT
AIR BOX AND ELECTRICS BETWEEN TANK AND STEERING HEAD
WIND SHIELD WIPER
ENGINE: 500 cc DOHC TWIN
FOUR-VALVE HEADS WITH FORKED VALVE ACTUATORS
180° CRANK WITH COUNTER-BALANCERS
INTAKE IS IN FRONT OF ENGINE WITH EXHAUST AT THE REAR
TURBOCHARGED
WATER-COOLED (AIR DUCTED THROUGH FAIRING TO RADIATOR)
FUEL INJECTED
ELECTRONIC IGNITION AND FUEL PUMP
COMPUTER CONTROLLED BOOST, SPARK ADVANCE, AND FUEL/AIR MIXTURE
SIX SPEED TRANS.
TOOTHED-BELT FINAL DRIVE
MOPED
SCALE - 1/5
STREET/TOURING/SPORT
SCALE - 1/7
Street Motorcycle front wheel
Moped front wheel
Street Motorcycle and Moped rear wheels
MOPED
SCALE - 1/5
STREET/TOURING/SPORT
SCALE - 1/7
Street Motorcycle front wheel
Moped front wheel

Second-placeman John M. Harrison's Touring and Sport designs

A rare example of a clear familial relationship between vertical-rider and peg-dragger bikes, but is America ready for hub-center steering?

der-17 kids sent in drawings, of which 23 percent were touring bikes, 10 percent mopeds and a whopping 67 percent sport bikes. The over-18 category submitted 339 designs, 20 percent being touring bikes, eight percent mopeds, five percent "miscellaneous" and, again, 67 percent sport bikes. From the numbers, it's not hard to spot the zone of highest interest.

The judging panel, comprised of two product development designers, a U.S. Suzuki stylist and a faculty member from the Los Angeles Art Center School of Design, spent a day sifting and sorting the pile of art and finally emerged with the top 20 in each age group. As the contest rules had stated, they were more concerned with styling than engineering, and as we at *Cycle Guide* examined the entries, it was clear that they were.

When asked to generalize about the contest, Suzuki officials are vague on some issues and concrete on others. Were they surprised by the number of entries? Was it below or above expectations? Shrugs; who knows without prior experience? Were the *designs* surprising, either specifically or generally? More shrugs, but with some comment about a lack of radical thinking. Were there trends displayed in the entries that proved unanticipated? Yes, said the officials, several: the high incidence of Vee-configuration engines, the nearly ubiquitous fairings on sport bikes, the emphasis on solo-riding designs, the willingness of the entrants to specify unusual suspension systems. The lack of attention paid to

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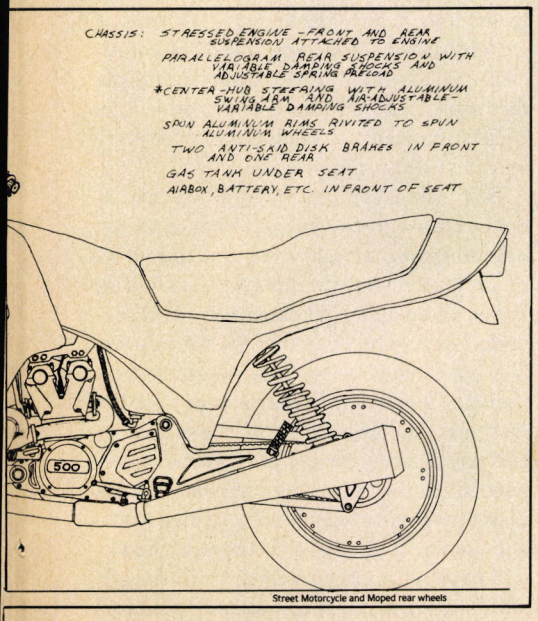
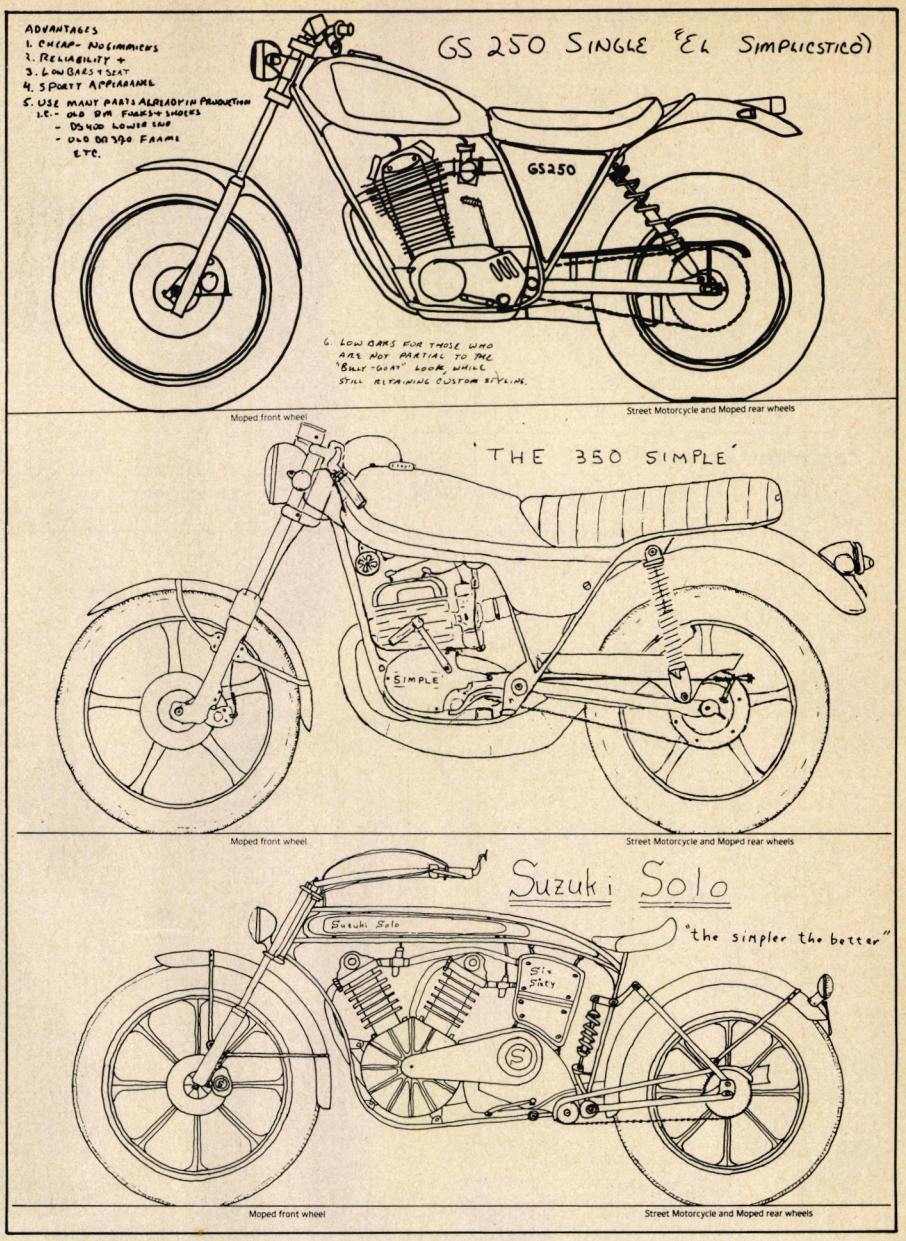
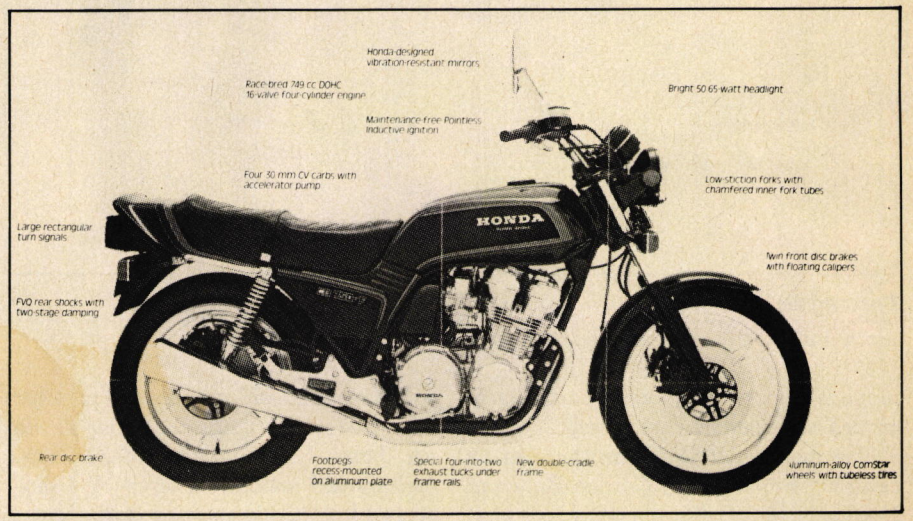

CHASSIS: STRESSED ENGINE - FRONT AND REAR SUSPENSION ATTACHED TO ENGINE
PARALLELOGRAM REAR SUSPENSION WITH VARIABLE DAMPING SHOCKS AND ADJUSTABLE SPRING PRELOAD
*CENTER-HUB STEERING WITH ALUMINUM SWINGARM AND ADJUSTABLE-VARIABLE DAMPING SHOCKS
SPUN ALUMINUM RIMS RIVITED TO SPUN ALUMINUM WHEELS
TWO ANTI-SKID DISK BRAKES IN FRONT AND ONE REAR
GAS TANK UNDER SEAT
AIRBOX, BATTERY, ETC. IN FRONT OF SEAT
500
Street Motorcycle and Moped rear wheels

Is anybody?


ADVANTAGES
1. CHEAP - NO GIMMICKS
2. RELIABILITY +
3. LOW GAS + SEAT
4. SPORTY APPEARANCE
5. USE MANY PARTS ALREADY IN PRODUCTION
i.e. - OLD RM FORKS + SHOCKS
- DS400 LOWER END
- OLD DT250 FRAME
ETC.
GS 250 SINGLE "EL SIMPLICSTICO"
GS250
6. LOW GAS FOR THOSE WHO ARE NOT PARTIAL TO THE "BENT-OVER" LOOK, WHILE STILL RETAINING CUSTOM STYLING.
Moped front wheel
Street Motorcycle and Moped rear wheels
"THE 350 SIMPLE"
SIMPLE
Moped front wheel
Street Motorcycle and Moped rear wheels
Suzuki Solo
"the simpler the better"
Suzuki Solo
Moped front wheel
Street Motorcycle and Moped rear wheels

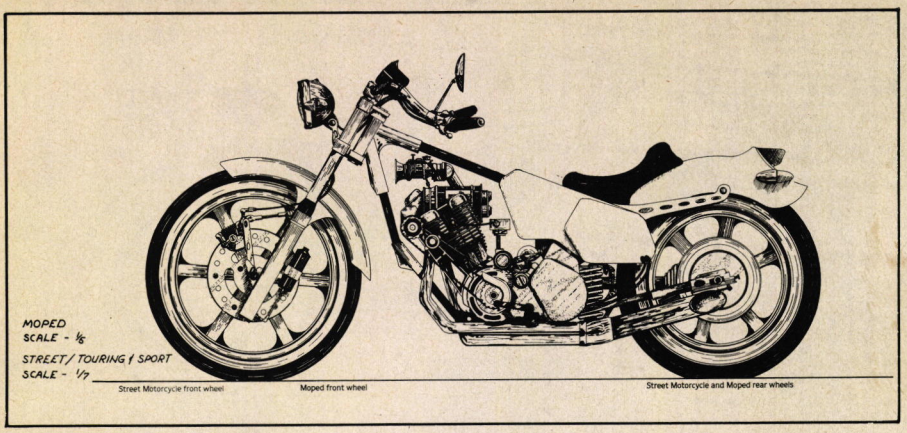
Suzuki's Simple Ideas

Suddenly it's 1961 . . . or 1921. Or never.


Honda-designed vibration-resistant mirrors
Race-bred 749 cc DOHC 16-valve four-cylinder engine
Bright 50/65 watt headlight
Maintenance-free Pointless inductive ignition
Four 30 mm CV carbs with accelerator pump
Low-friction forks with chamfered inner fork tubes
Large rectangular turn signals
HONDA
Twin front disc brakes with floating calipers
PVQ rear shocks with two-stage damping
Rear disc brake
Footpegs recess-mounted on aluminum plate
Special four-into-two exhaust tucks under frame rails
New double-cradle frame
Aluminum-alloy Comstar wheels with tubeless tires

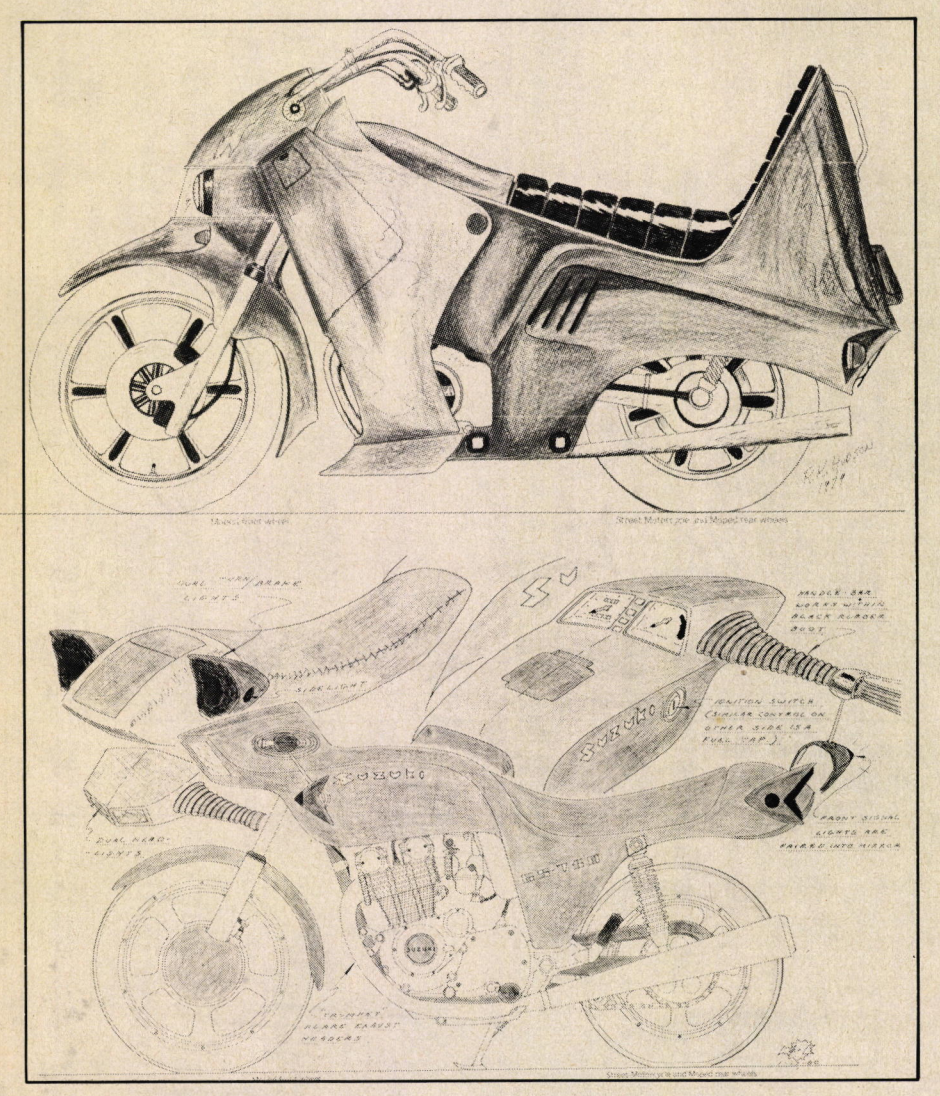
No-smiles-at-Suzuki entry

William P. Truby was just trying to be funny. Wasn't he?



Mr. Harley, meet Mr. Suzuki

She's a beaut, ain't she? Mr. Suzuki? You there? Hello?



Cheating the Wind

Neck-and-neck in the swoop-off sweepstakes.

mopeds and touring bikes particularly piqued corporate interest as well.

The motorcycle that won the over-18 category, submitted by Gordon Brown of Laguna Niguel, California provides a kind of composite view of these trends. Brown used a V-4 engine in a monocoque chassis with a vestigial fairing and a solo configuration (see sidebar). And the under-17 winner, James J. Armour, opted for a 2200cc fuel-injected and turbocharged V-8 shoehorned into highly sporting device with a Euclidian-Special front end and a very small sport fairing.

Cycle Guide's examination of the five-hundred-plus drawings revealed trends echoing Suzuki's pronouncements. Aside from the large number of conservative four-cylinder sport bikes looking much like those already available, the most popular design elements were a V-4 DOHC engine, very Ducati-like, mated to semi-racy street rods. Sometimes fuel-injected, sometimes turbocharged, the V-4's popularity with this widely scattered group of entrants poses tantalizing questions for the zealous futurist, as does the evident acceptance of hi-tech subsystems: Is America about ready to forsake its beloved transverse four for the Vee? *They* apparently think so in Design-a-Better-Bike Land. They also didn't respond with many Special-style bikes, or with many out-and-out roadracers. Thus this agglomeration of ideas—the V-4 stuffed into a low-bar backroad bomber with high-tech suspension—is a tempting target for speculation. Are we really seeing the revival of interest in café racing long prophesied at great length by die-hard clip-on addicts?

Suzuki isn't saying, but it's likely they don't think so, and neither do we. As Danny Shumate, Chief Stylist for U.S. Suzuki says, "When they've got a pencil in their hand, motorcycle guys like to fantasize, so you get solo seats and low bars. But they *won't* put their money down for a bike like that." Call it the Girlfriend Factor. Further evidence to underline the unreliability of the super-sport as Everybike of the Future can be had in the market research files. First, this sample of Americans came from heavily sport-oriented readers. Second, the most avid—and vocal—enthusiasts have always been heavily influenced by racers and racing machinery—it's true of car enthusiasts and true too of motorcyclists. So Suzuki is hardly likely to dump a factory-full of yen into a crash project to build hundreds of thousands of super-sport hyperfast motorcycles.

But there remain key points which could outweigh the yawns: First, a major manufacturer actually solicited the views of its customers, deliberately excluding those who usually get their ears. And second, if Suzuki really is about to introduce a V-4 hyperbike, as has been whispered by industry insiders with persistence over the last year, the popularity of the engine in this contest may be just the counterweight needed to offset lingering corporate doubts about pioneering engineering's value in the showroom. If that comes to pass, Suzuki will have set another record: With the advent of its V-4, it'll become the first motorcycle manufacturer to produce a self-fulfilling contest. •

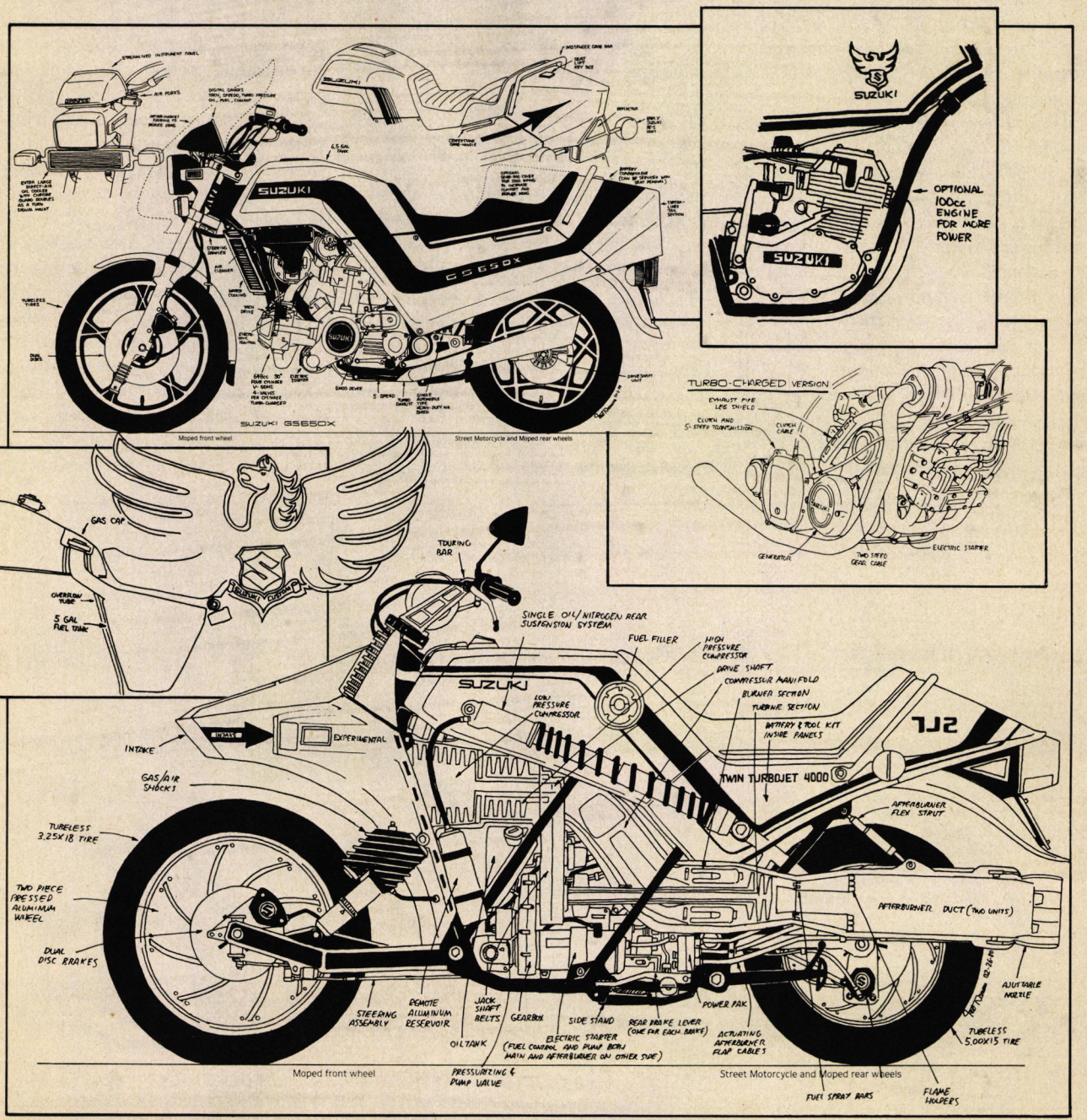
ONE-MAN SHOW:

Potpourri Nomura

When wilder bikes are built, will jet mechanics build them?

• Ted Nomura, in explaining the genesis of the bizarre TJ2 turbojet motorcycle design he sent to the Suzuki Design-a-Better-Bike Contest, admitted that he was a USAF jet engine mechanic. It explains why he chose a single axial-flow dual-compressor turbojet engine to power his creation, but that's not all this man has to answer for. In examining the entries for the contest, *Guide* found no less than 16 entries from Mr. Nomura, each one meticulously executed and a far cry from the bland conservatism that marked the vast majority of contest entries. Mr. Nomura garnered a third place for his GS650X sportbike, but almost every one of his designs will interest the mechanism freak and style-slave alike. We were so impressed we figured we'd better publish some. After all, a man with a mind like this might be *building* the things after he stops wrenching on F-15s.

—Steve Thompson



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ONE MAN'S VISION:

The Suzuki Exemplar

A teardown of the winner, by the winner.

BY GORDON M. BROWN

For Gordon M. Brown, the winner of Suzuki's design contest, just submitting a drawing wasn't enough. He wanted to explain it. So he did, to the tune of 2200 words. While Brown's description of his Exemplar motorcycle had no bearing on the outcome of the contest, we think it presents a vision of the future that you'll find as fascinating as we did. The condensed version of Brown's manuscript that follows should help clarify your own thoughts about future bikes, as will the Cycle Guide-autograph specifications panel for the bike. Read on and dream on.

• In the Seventies, we saw significant developments in wheels, brakes and suspensions. But the Seventies also brought a trend toward increased weight, more complex engine layouts and an almost unreasoning thirst for horsepower. But does a street motorcycle really need to have six cylinders and 24 valves? Must it weigh on the wrong side of 600 pounds? Must it have 100 horsepower or more, and be able to do 140 mph? I don't think so.

In my opinion, the design goals for the Eighties should be as follows:

1) To reduce the weight, bulk and complexity of motorcycle engines without sacrificing smoothness and technical refinement
2) To increase fuel capacity
3) To cut down on weight in general and unsprung weight in particular
4) To integrate now-separate components wherever possible in order to reduce the number of moving parts, and to save weight by making such components as engines and brakes assume structural loads

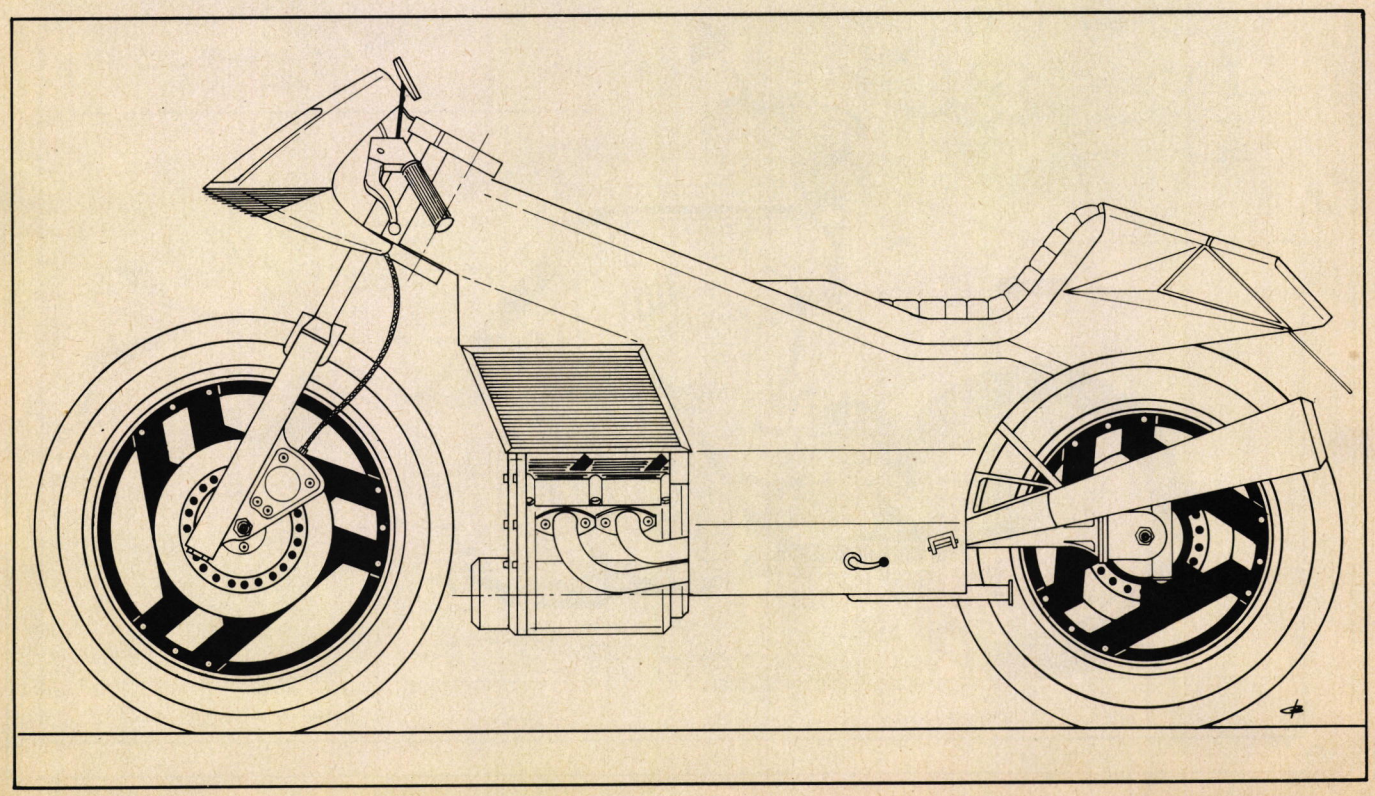
DESIGN CONCEPT

The name of my motorcycle—Exemplar—reflects a hoped-for trend away from displacement categories and the alphabet soup approach to motorcycle nomenclature. The Exemplar is designed to take one person from point A to point B as quickly and effortlessly as possible. Like an outstanding high-fidelity audio speaker, the Exemplar should have the "grace to disappear," and leave the rider feeling as though he is cruising on an invisible, silent, highly maneuverable rocketship.

To achieve this effect, the bike should have reasonable power, about 65 rear-wheel horsepower, without adding the weight and bulk that make a motorcycle difficult to handle. The power must be usable power, not the kind of power that satisfies only a hungry ego. The bike must be light by current superbike standards—about 450 pounds dry. Its engine must be narrow and set low in the frame for a low center of gravity. Though the bike will have the acceleration and top speed of today's 750, it must feel to the rider as if it were a 400. Also top speed of the machine is academic, but it must have an overdrive gear so that it may cruise easily at 120 mph.

ENGINE

This engine is a liquid-cooled four-stroke V-4 mounted longitudinally in the frame. The V-4 layout was chosen for its compactness, its ability to be mounted low in the frame, its short, rigid crankshaft and proximity of all four intakes. Because the crankshaft spins parallel to the driveshaft, power losses in transmission will be minimized. An included angle of 70 degrees between cylinder banks provides a good balance of narrowness, rod length and bore/stroke ratio. A disadvantage of this layout is the rocking couple inherent in any 180-degree crankshaft. Hopefully, the engine's short stroke will help alleviate this problem, as will careful balancing of the crank and the relatively heavy water-jacketing of the cylinder block. Lubrication is dry sump with a high-pressure oil pump and a separate oil reservoir. This enables the engine to be mounted even lower in the



frame than is possible with a wet sump.

Fuel is fed to the engine by an electronic fuel injection system. The fuel delivery system should be capable of monitoring exhaust gases and adjusting ignition timing and meter fuel accordingly. In this way, the engine should deliver optimum power under any condition or throttle opening.

Valve actuation is by means of a single overhead camshaft operating two intake valves and one exhaust valve per cylinder via polished magnesium rocker arms with hardened steel contacts. The camshafts are driven by a train of seven helical gears at the front of the engine (there are no chains anywhere on the Exemplar). The only advantages of a DOHC system are a second exhaust valve and central spark plug location, and a well-designed three-valve head can be made to work almost as efficiently. An advantage of the SOHC layout here is that rocker arms and screw-type valve adjusters are already designed in, rather than being added as an intermediary between the cam lobes and the valve stems.

TRANSMISSION

Transmission of power to the rear wheel is straightforward and utterly conventional. Two helical-cut primary gears transmit power to the wet, multi-plate clutch at a reduction of 3.00:1. To prolong clutch life, over 56 percent of the overall reduction takes place at the primary level, so the clutch spins relatively slowly. The gearbox is six-speed. The first five ratios are evenly spaced, but there is a large step up to the overdrive sixth gear, which is intended for ultra high-speed cruising or for fuel economy. The driven shaft of the gearbox is connected to a constant-velocity U-joint at the pivot point of the swingarm which turns the driveshaft. A major disadvantage of shaft drive is the large amount of unsprung weight at the rear wheel. On the Exemplar a conscious effort is made to reduce this weight as much as possible, not only by using lightweight alloys and plastics, but also by keeping the size of the gear case to a minimum. Keeping the reduction ratio low helps in this respect.

CHASSIS AND SUSPENSION

The Exemplar employs a stressed aluminum monocoque chassis with the engine acting as a structural member. This layout was chosen for four reasons: 1) to make the machine lighter; 2) to accommodate ducting for the side-mounted radiators and for the air intake; 3) to envelop a fuel cell mounted below the seat; and 4) to give the machine a different look, one that emphasizes unity and straight lines instead of the bulbous metal contours and separate components evident in today's bikes.

Front suspension is a trailing-axle telescopic fork with magnesium sliders. It has adjustments for air pressure, damping and spring preload. Two features assist in maintaining the geometry of the front fork assembly. One is the fork brace at the top of the sliders. The second is the axle, which is a 21mm hollow titanium tube. For maximum rigidity the axle and its mounting holes are threaded.

Rear suspension follows conventional racing practice. A single shock absorber is underneath the seat with its front end mounted to a bulkhead of the monocoque. It's adjustable for damping, spring preload and air pressure. Access to the shock (and to the fuel cap) is obtained by swinging the locking seat sideways. The swingarm is constructed from box-section aluminum and the rear axle is another hollow 21mm titanium tube.

WHEELS AND BRAKES

The problem was to integrate the working surfaces of the brakes with the rest of the wheel to obtain a lightweight composite structure. A potential solution lies in the use of a conical brake rotor. The U.S. Steel Corporation is experimenting with cone-type brakes on automobiles and preliminary testing indicates that the cone-type braking system is substantially lighter than a conventional system with about half the number of parts, making it cheaper to manufacture. It's also easier to service, delivers more feel and cools down faster. The overriding advantage in a motorcycle application is that two of these conical rotors can be mounted back-to-back, forming the nucleus of a lightweight and rigid wheel structure. Moreover, wheel spokes can be integrated with the brake rotors, then fastened to a separate extruded alloy rim.

LIGHTING AND INSTRUMENT PANEL

In keeping with the mechanical and visual theme of unification, an attempt is made here to combine the headlight and instrument nacelle. The result is a quarter fairing which houses the instruments, rectangular halogen headlight and turn signals. The instrument panel is recessed inside the upper lip of the fairing. It is totally computerized, with LED digital display. Instead of being mechanically driven, the speedometer receives electrical impulses which are triggered by a light-emitting diode in the front hub. Altogether there are seven displays, but by manipulating two switches, 21 different items of information can be displayed.

SUMMARY

The Exemplar hopes to give the rider the feeling that it is designed rather than styled. This is not merely to say that form has followed function, for out of the aesthetic of function it is possible to draw forms that are beautiful, startling and unusual. Though the Exemplar is complex in many respects, it is simple in ways many of the machines on the road today cannot duplicate. Also, I've sought to give a feeling of unity to this project—a notion of oneness, of wholeness and of integrity that the modern rider strives for. •

IMPORTER: Gordon M. Brown/U.S. Suzuki Motor Corp.
13767 Freeway Drive
Sante Fe Springs, California 90670

CATEGORY: street

SUGGESTED RETAIL PRICE: $20,000 (estimated)

ENGINE

Type	four-stroke, liquid-cooled tandem V-4
Valve arrangement	single overhead cam, three valves per cylinder
Bore and stroke	75.2mm x 45.0mm
Displacement	799.5cc
Compression ratio	9.5:1
Carburetion	electronic fuel injection
Air filter	washable foam element
Lubrication	dry sump
Starting system	electric only
Ignition	transistorized breakerless
Charging system	12-volt; alternator, voltage regulator, rectifier

DRIVETRAIN

Primary drive	helical gears
Primary drive ratio	3.00:1
Clutch	wet, multi-plate
Driveshaft-to-rear-wheel drive	spiral bevel gears
Driveshaft-to-rear-wheel ratio	1.778

SUSPENSION/WHEEL TRAVEL, IN.

Front	air-spring, adj. spring preload, adj. damping/6.1 in. (155mm)
Rear	air-spring, adj. spring preload, adj. damping/3.5 in. (90mm)

BRAKES

Front	dual-cone type, hydraulically activated, 1290 cm^2 swept area
Rear	single cone type, hydraulically activated, 645 cm^2 swept area

TIRES

Front	3.50V19 tubeless
Rear	5.00V16 tubeless

DIMENSIONS AND CAPACITIES

Weight	494 lbs. (224kg)
Gross vehicle weight rating	894 lbs. (405kg)
Wheelbase	59.4 in. (151cm)
Seat height	27.9 in. (710mm)
Footpeg height	13.0 in. (330mm)
Ground clearance	5.9 in. (150mm)
Steering head angle	28.0 degrees from vertical
Front wheel trail	4.06 in. (103mm)
Frame	aluminum monocoque
Oil capacity	4.76 qt. (4.5 l)
Fuel tank	steel, 5.5 gal. (20.8l)
Instrumentation	LED speedometer, odometer, tripmeter resettable to zero, tachometer; plus dual-logic displays for fuel capacity, fuel mileage, water temperature, water pressure, oil temperature, oil pressure, ammeter, voltmeter (both English and Metric units)

PERFORMANCE

Fuel consumption	45 mpg (19.1 km/l)
Range, maximum	248 miles (398km)
Speedometer error, 30 mph indicated	30 mph actual
Speedometer error, 60 mph indicated	60 mph actual
Best ¼-mile acceleration	12.4 sec., 110.0 mph (176 kph)
Top speed (calculated)	131 mph (209 kph)

MINITEST:

Yamaha Exciter I

Think of it as America's moped.

• Ah, progress. Was it that long ago that a 250 was considered an adult motorcycle? Now it seems anything less than 500cc is a Beginner Bike and a 250 is just a step above training wheels. And yet there's a real need for bikes like Yamaha's Exciter I, a 250cc single intended for those of the gas-miserly persuasion.

The Exciter in a way is a moped for American grownups, for a moped is a minimum commuter motorcycle that is as small as possible while still being able to keep pace with traffic. In Japan and Europe, a moped is 50cc. In America, a moped is 250cc. And taken in that light, the Exciter I (the Exciter II has a travel trunk) is a fine little mop--, er, motorcycle, suiting American traffic to at least a lower case t.

Your $1279 buys you a 249cc SOHC single with five-speed gearbox to propel you to your destination at a rate of 75 mpg. A single gear-driven counterbalancer cancels out the most annoying engine vibrations while the single piston and CV carb produce thrust with sufficient authority to carry you with or past traffic. There's no discernible power peak, which means there really isn't much power, but it also indicates that you're never far from at least *some* power. The electric starter makes the bike a snap to start while the clutch's broad engagement point makes stoplight getaways perfectly manageable. As a whole, in fact, the Exciter starts, stops, steers and rides easily enough for any novice, whether he's got a bunch of Chem 10A texts bungied to the seat or a lunchbox. The bike's light weight certainly aids maneuverablity in this respect.

Unfortunately much of the Yamaha's mechanical competence is negated by ergonomic frivolity. The bike has been styled in the American idiom for broad appeal, but the riding position that results cramped even my five-foot-ten frame. You're perched uncomfortably far forward on what should be thought of as a single-person bike, and with both my hands on the grips I could touch my knees with my little fingers. Such awkwardness makes no sense on a bike designed to be as functional as this one.

There are other flaws in the Exciter as well. Not in the execution, but in the conception. Yamaha naturally went to great lengths to make the Exciter as affordable as possible, but it seriously undercut the bike's functional quotient while simultaneously chroming everything in sight. For example, there's no trip odometer so you can estimate the amount of fuel in your small 2.8-gallon fuel tank. Also there's only one mirror on a bike designed to spend most of its life in traffic. And finally, would you send your kid off to school on a motorcycle without a sidestand? Would you even go to the store yourself on a motorcycle without a sidestand? There's a place on the frame for installing one, and indeed it's "optional" equipment, but everywhere you go you're forced to hoist the box-stock Exciter up on its centerstand. You're discouraged from using the bike as a result.

Even so, you should probably compensate for the fuzzy thinking evident in the Exciter I's equipment by purchasing a mirror and sidestand. Because in many ways this bike has real merit as a machine this country has always needed—a moped in its own size.

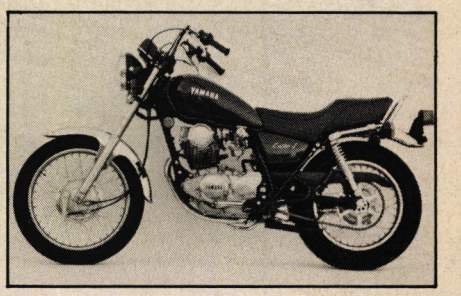
—Don Fuller

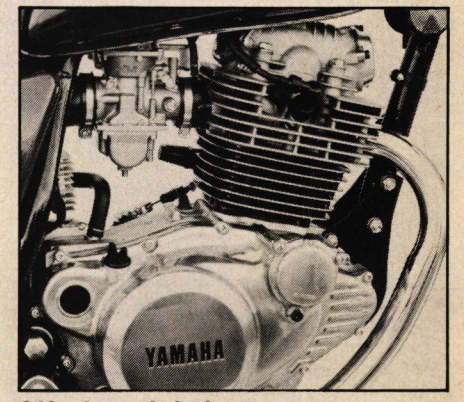
Yamaha Exciter I

Importer: Yamaha Motor Corp., U.S.A.
6555 Katella Avenue
Cypress, California 90630

Category:	street
Suggested retail price:	$1279
Engine type	four-stroke vertical single
Valve arrangement	single overhead cam, two valves per cylinder
Bore and stroke	75.0mm x 56.6mm
Displacement	249cc
Carburetion	one 34mm Mikuni constant velocity
Gearbox	5-speed
Front fork / wheel travel	32mm stanchion tube diameter / 5.3 in. (135mm)
Rear shocks / wheel travel	5-way adjustable spring preload / 3.1 in. (79mm)
Wheelbase	53.0 to 54.5 in. (135 to 138cm)
Seat height	29.5 in. (749mm)
Weight	274 lbs. (124kg)
Fuel consumption	69 to 75 mpg (29 to 32 km/l)

DAVID CLARK





249cc low-calorie thumper

But still more than an oversized moped.

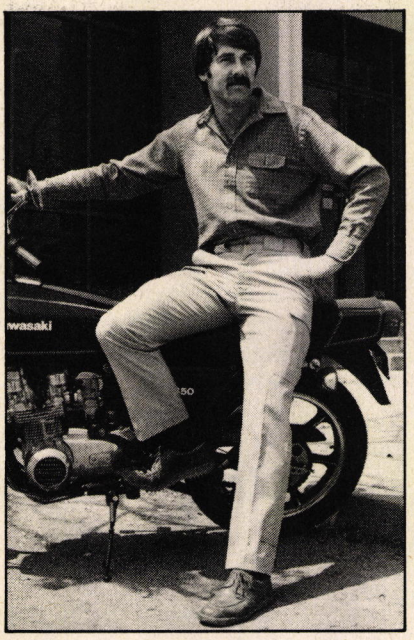
PRODUCT EVALUATION:

L.L. Bean Trail Pants

Something we and the Sierra Club both need.

• A rider's pants can make or break a ride. Anybody who knows the irritation of selecting the wrong pair for an all-day ride knows that. But what choices have you got? Serious touring items, plain wrong for hot weather, fancy leather—also not right in hot weather—or Levi's.

Always on the lookout for a pair of trousers that will make my day better on a bike, I sent away last year for a pair of L.L. Bean Trail Pants. And despite the fact that they look like a cross between GI fatigue trousers and something a bush pilot might wear, I can tell you this: they work. In fact, whenever the temperature climbs above 50 degrees, I opt for them over anything else in the closet.



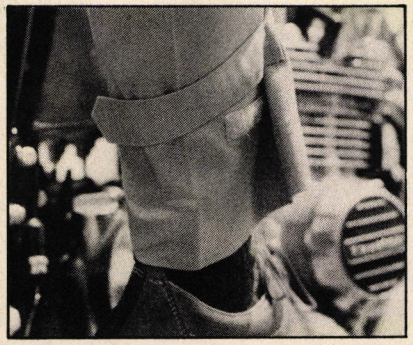
The things that make them ideal for trail work also help us out. They're cut full, so there's no uncomfortable bunching at knees, hips or crotch. They have tunnel belt loops and suspender buttons, wide slash pockets in front and button-flap rears. And their two best features are the cleverly positioned 8″x 9″ expandable cargo pockets on the thighs. These enormous pockets secure with buttons, and it so happens that they're ideal places for storing things you need to get to while in motion: glasses cases, maps, Life Savers, you name it. You can stuff them mercilessly, and they don't chafe when you're riding or walking. *That's* clever.

Clever too are the Velcro straps on the leg bottoms that allow you to adjust the opening size—useful for minimizing flapping or for dialing-in the right amount of leg-cooling air.

The Bean catalog claims that the medium-weight Brittany Twill (65 percent Dacron/35 percent tight-combed cotton) has exceptional abrasion and tear-resistance. And it's right. After a year of use, these pants still look new every time I pull them out of the washer. (That's another point: On a tour, you can go ahead and consider them wash-and-wear; they're wrinkle-free straight from the dryer.)

At $32.00 a pair, these tan pants are hardly a screaming deal, considering that your local jeans guy will slide you into some denim a lot cheaper. But I think they're worth it; these look better, wear better and work better on a bike. They even dry out faster after a downpour, and are light-years more comfortable to wear than any other trousers I've tried in all climates, including the awful sticky heat of August in New York. Their only drawback is one of style; they don't have any. Like a Bell Star, they're made for function. If that's good enough for you, you can get them from L. L. Bean Inc., Freeport, Maine 04033. And if you can't wait for the catalog, the telephone number is (207) 865-3111. The Trail Pants are cataloged as Item 1838E.

—*Steve Thompson*

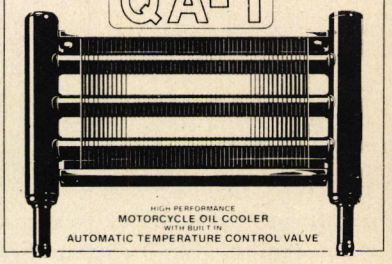


Mr. Bean's expandable cargo pocket and Velcro leg straps

Fashion-wise, something short of elegant, but just what the moto-doc ordered.

DERALE OIL COOLERS

QA-1



Model No.	Application	Sug. Ret.
	HONDA	
H-1T	500,550,750 PRE '79	$79.95
H-2T	750F '77-'78	$79.95
H-3T	650,750K-F, '79-'80	$79.95
H-4T	GL 1000, GL 1100	$79.95
H-5T	CB 400 T	$79.95
H-6T	ATC 90-110	$79.95
	YAMAHA	
Y-1T	XS 1100	$79.95
Y-2T	XS 750	$79.95
Y-3T	XS 650	$79.95
Y-4T	SR 500	$79.95
Y-5T	TT 500	$79.95
	KAWASAKI	
K-1T	KZ 900, 1000, ZIR	$79.95
K-2T	KZ 650	$79.95
K-3T	KZ 1000 ST/'79	$79.95
	SUZUKI	
S-1T	GS 550,750,850,1000	$79.95
S-2T	GS 1100	$79.95
	BMW	
B-1T	R75/6,R90/6,R90/S R75/7,R100/7,R80/7	$79.95
B-2T	R100/S	$79.95
	MOTO GUZZI	
M-1T	850-T3, GS 1000	$79.95
	HARLEY-BRITISH	
D-1T	650 AND UP	$74.95

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ROAD TEST:

Kawasaki KZ550

Strap yourself into the cockpit of the best apex-strafer since the CB400F.

BY MICHAEL JORDAN

One does not just take the saddle of the Kawasaki KZ550. One Assumes The Controls. Every aspect of this bike, from the trim black bodywork to the cat-quick chassis to the rocket-like engine, emphasizes that the KZ550 is a pure-bred sporting motorcycle, the closest thing on two wheels to a full-bore jet fighter. When you lower your helmet's faceshield, you can almost hear the cockpit canopy sliding into place. The 550 makes you feel like Steve Canyon, hero of the funny papers, booming and zooming your Sabre jet through the stratosphere.

For aspiring sky pilots, the 550 is the bike that finally measures up to the legendary Honda CB400F, that jewel-like combination of four-cylinder engine and lightweight chassis that has maintained its grip on the sporting rider's imagination since production halted in 1977. Just as with the Honda, you do not just ride the Kawasaki KZ550—you plug in, as if a single cable jack connected thousands of your nerve endings to the response centers of the motorcycle. And like the 400F, you can wring out the Kawasaki and use everything it has to give without scaring yourself. It's the kind of bike that makes you a better rider, because its good manners encourage you to find the bike's outer limits.

For all the gleam that the KZ550 arouses in the eyes of prospective Steve Canyons, though, it very nearly never became available in the U.S. Kawasaki Heavy Industries originally expected the bike to end-run insurance penalties for large displacement bikes in Japan and Europe. And the KZ400/4 has indeed become the strongest selling bike in its class in Japan while the KZ500 knocked the socks off European riders immediately following its mid-1979 introduction. No plans were made for sale in the U.S. until Kawasaki Motor Company executives rode the KZ500 in Europe. Then its staggering performance capabilities convinced them that special measures to make the bike available in

LARRY GATZ

America were not only justified, they were mandatory. So KMC adapted the KZ500 package to a concept for a lightweight, reliable entry-level bike that had been simmering on the corporate back-burner for a while, and put the KZ550 into its 1980 lineup only a few short months after the decision to proceed had been made.

The KZ550's $2179 buy-in, 50-mpg capability and 426-pound weight make it a smart choice for a rookie's first motorcycle, but don't let these qualifications fool you. If the 550 doesn't make you feel like a fighter jockey at the stick of the latest hot rod from General Dynamics, your soul undoubtedly has fallen asleep.

Those of you with more animated, sporting spirits will appreciate a chassis that hunts apexes with a killer's instinct developed on the winding lanes of Europe. The Kawasaki 550 darts and swoops with an ease that makes other middleweight bikes feel like banana freighters. A mild steel frame with substantial steering head gusseting, ball bearings in the steering head and needle bearings in the swingarm pivot forms the chassis' bare bones, but it's the dimensions that count. A short-coupled 55-inch wheelbase helps the KayZee respond to inputs from the ultra-quick steering—26 degrees of rake and 3.9 inches of trail—without hesitation. You might think that such an emphasis on responsiveness would compromise cornering stability, but whether you're grinding a footpeg in a 40-mph hairpin or peeling off for an 80-mph bend on a racetrack, the 550 always proves well-mannered and predictable in every way.

The suspension does its bit to keep the KZ550 sure-footed in the corners, too. It's compliant enough to absorb a pummeling from small bumps and strong enough to keep the bike from straying from its line even under the extraordinary demands of the racetrack. Still, the suspension isn't the last word in technology. The leading-axle fork doesn't earn the description of "plush," for a measure of road harshness always updates you on the pavement's texture, and the single anti-stiction bushing helps only a little in this regard. Overall, though, the front end combines a fairly comfortable ride with effective control in a thoroughly modern way. The rear suspension doesn't operate with much sophistication, though. When new, the shocks resist compression while the spring rate feels more appropriate to two-up riding than purposeful sport riding. And after a 1500-mile workout in our hands, the damping faded away until the bump rubbers were squashed flat fairly regularly. Such is the merit of the KZ550 that even this classic example of an underdamped and oversprung rear suspension can't upset it in the

Continued

Flash: More show and more go for the KZ550

CHRIS EASTMAN

• At a glance, you'd reckon that Project Flash here typifies the usual sort of go-fast modified motorcycle. You know, first you bolt on the high-horsepower hardware so that the engine will barely run, and then you set about making the bike ride badly. After all, everyone knows real high-performance bikes are cranky and uncomfortable.

But this project is different. We wanted to amplify the KZ550's fundamental high-performance character, but not at the cost of turning the bike into something we could bear to ride only on Sundays. We defined high-performance as flexibility and comfort, not just high speed. We wanted to create a bike that would have all the virtues of a pocket-rocket with the flexibility of a full-size bike you'd want to own.

The foundation of the KZ550 is so good that much of the bike's transformation is cosmetic. The Kerker four-into-one exhaust, Gran Sport fairing and a Café seat—all from Kawasaki's own accessory catalog—went on in less than three hours. Fitting a pair of grips from a Honda CB750F and a Tsubaki HSL O-ring chain solved a few of the Kawasaki's niggling annoyances. And a pair of S&W Engineering Street Stroker shocks and Dunlop 4.10 K81 R-compound tires fore and aft brought out the final measure of the 550's goodness. Each of these items altered the Kawasaki in subtle but significant ways.

The height of the Gran Sport fairing looks awkward, but the unit effectively deflects the wind from your chest as a result. Meanwhile, the airflow around your helmet is relatively undisturbed, so you can enjoy the longer rides the fairing makes possible without enduring a lot of helmet buffeting. The new saddle reduces seat height by about an inch and so far has proven more resilient than the stock item. Unfortunately, it places you somewhat for-

ward, making the forward location of the footpegs even more noticeable. The riding position is a little more upright as a result, but the fairing keeps it from becoming too annoying on long rides.

Kerker's exhaust in many ways was as much a cosmetic change as a functional one. The snarl from the exhaust and the retro-rocket bluing of the header pipes made converts of us all. Even better, the pipe required no functional compromises. The same broad powerband is retained, for the Kerker pipe produces fractionally more power throughout the low- and midrange, and then delivers nine percent more power at peak rpm. In addition, the Kerker pipe preserves oil filter access and the use of the centerstand while reducing the bike's weight.

Alterations like the grips and chain seem small, but they are the sort of changes that make a bike easier to live with. The soft tacky rubber of the Honda grips provides a comfortable and reassuring handhold. And replacing the stock chain—which required four adjustments in 1800 miles—with the race-proven Tsubaki went a long way toward reducing the driveline lash due to chain slack that can make throttle control difficult.

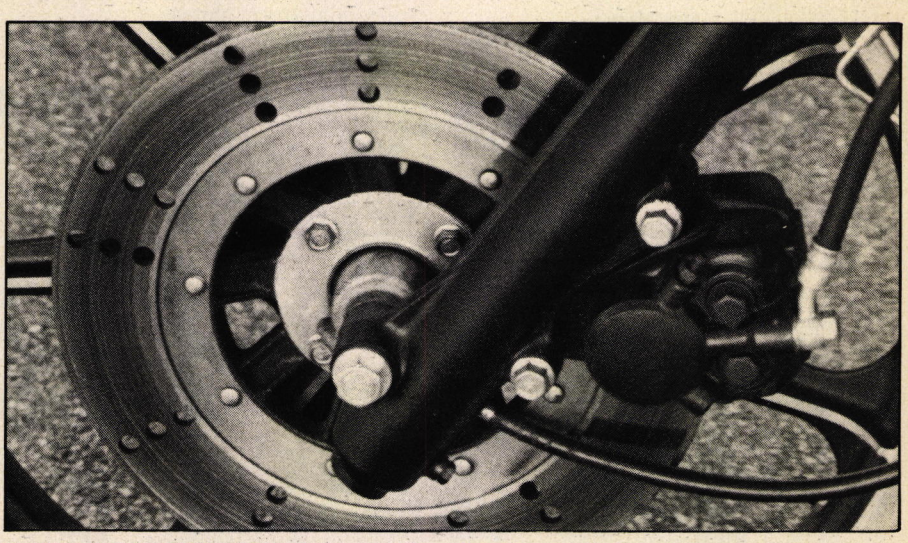
The Street Stroker shocks look racy, yet for all their freon-cell construction and sophisticated damping, their dual-rate springs make the most important contribution to Project Flash by improving the bike's ride. The soft initial spring absorbs small inputs, while the stiffer secondary spring affords plenty of control under fierce cornering. More important to the project, we selected an overall spring rate appropriate to one-up riding, which insured that the suspension would work for us instead of against us.

Kawasaki had the right idea when it fitted a Dunlop K81 tire to the rear of the 550, because its ability to make quick transitions is compatible with the chassis characteristics.

Kawasaki Gran Sport Fairing	$142.95
Kawasaki Cafe Seat	84.00
Kawasaki Kerker Chrome exhaust	206.00
Honda CB750F grips	3.29
Tsubaki HSL O-ring chain	47.95
S&W Street Stroker shocks with springs	134.90
Dunlop 4.10 K81R tires (2)	120.89

The easy-steering ribbed front tire, however, gets vague at high speeds and threatens to wash out. Fitting 4.10 K81Rs front and rear delivered a lot more grip and crisper response, although at the price of slightly heavier steering, 20 percent faster wear and a reduction in straightline stability.

As a whole, Project Flash fulfilled our go-fast fantasies. More important though, we improved the bike in some important ways while retaining its flexibility. This bike is speedier than a stock KZ550, yet it's also more pleasant to live with day after day. And that's the real measure of a successful go-faster project. —*Michael Jordan*



Good feel of KZ550's disc brake comes from the new generation of insulated calipers that permit the use of metallic pads without risk of vapor lock. Rear drum is progressive but fades.

corners, but aftermarket shocks and springs clearly are in order to help the rear suspension measure up to the rest of the bike.

Just as with the KZ750/4, light weight also shapes the 550's performance profile. The Kawasaki weighs just 426 pounds with its crankcase full of oil and its gas tank empty (the only way to compare motorcycle weights accurately without becoming confused by differences in fuel capacity). That makes the KZ some 16 pounds lighter than the Suzuki GS550ET and 22 pounds lighter than the Honda CX500. The Kawasaki also compares favorably to 650cc bikes in this respect, for it's 18 pounds lighter than the Honda CB650, 22 pounds lighter than the Yamaha Maxim I and 57 pounds lighter than the Kawasaki KZ650. And every pound's advantage works to the KZ550's benefit in terms of suspension responsiveness, maneuverability and fuel mileage.

Careful development, not radical tech-

Continued

nology, accounts for the slim figure the Kawasaki cuts on the scales. For even though the use of a rod-operated rear drum brake pares away some weight, most of the reduction comes from Kawasaki's corporate graduation from Weight Watchers. These days, its engineers employ computer models to analyze stress and fatigue, allowing them to pinpoint structural requirements far more precisely than a few years ago. And that means there's no longer a confusion of sheer mass with strength, the kind of thing that continues to compromise the heavyweight Z-1.

Yet for all the careful thought so apparent in the chassis, it's the KZ550's engine that ties the package together. It expresses perfectly Kawasaki's conviction that usable horsepower means far more to the street rider than peak horsepower. Dip into the four-cylinder motor's fat torque curve at any rpm with the six-speed gearbox and you'll be rewarded with enough forward thrust to snap your head back. And you don't have to wait for the afterburner to kick on at 6000 rpm to increase your ground speed the way you do with the Suzuki GS550. The KZ550 hammers its competition flat in any contest of roll-on acceleration and even makes the KZ650 and CB650 look vulnerable.

Don't bother fumbling through the engine's specifications in the search for speed secrets, though. You won't find any. It follows the pattern of the KZ650 engine although it uses a slipper-type cam-chain tensioner like another KZ650 relative, the KZ750/4. A plain-bearing crankshaft spins a jackshaft behind the crank through a Hy-vo chain. The jackshaft in turn drives the clutch through Kawasaki's characteristic straight-cut gears (KHI engineers believe helical gears compromise the durability of clutch and transmission). Another crank-driven Hy-vo chain operates the double overhead cams.

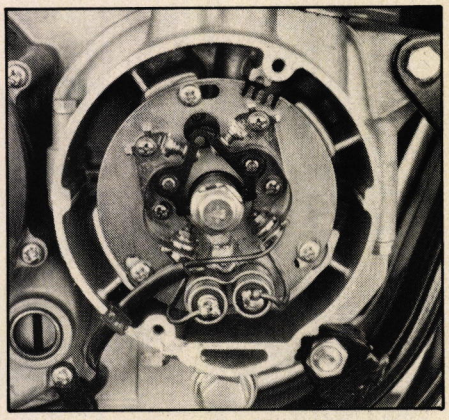
As with the 650 and 750 KZ engines, the tappets that operate the valves have their adjustment shims beneath the buckets. Even though the cams must be removed before adjustment shims can be installed, Kawasaki sticks to this system because it believes fewer actual adjustments will be required, no matter how often EPA regulations say valve clearances should be inspected. Although this valve adjustment procedure usually intimidates the amateur mechanic, professionals we've consulted claim it's simpler to adjust the eight valves of a KZ550, 650 or 750 than to adjust the 16 valves of a Honda CB750, even though the Honda's cams do not have to be removed before adjustment shims are fitted.

If there are any secrets to this engine, they probably lie in efficient carburetion, induction and exhaust. The small 22mm carburetors foster high intake velocity, producing good cylinder charging through large values even without radical cam timing (though with a fair amount of lift). Kawasaki's air-injection system, meanwhile, cleans up the exhaust so effectively that fewer carburetion compromises are necessary to produce EPA-pleasing emissions. The result is an engine that pulls powerfully without an accelerator pump or constant-velocity carbs.

The motor's only anomaly aside from air injection is the presence of a breaker-point ignition, even though the LTD version gets a transistorized one. Kawasaki claims that production of this engine is so large due to world-wide demand that its vendors cannot supply enough transistorized ignitions. In addition, the breaker-point ignition helps keep the standard bike's cost down.

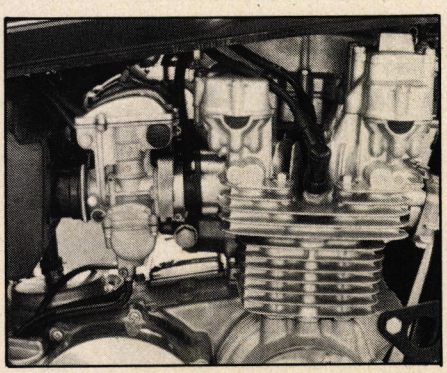
The 550 engine might be conventional in specification, but it certainly isn't conventional in performance. A strong clutch with smooth engagement is matched by stumble-free off-idle throttle response, helping you get away from stoplights without blowing your Steve Canyon fantasies. The six-speed transmission snaps from gear to gear positively and features Kawasaki's neutral finder, which keeps you from inad-

DAVID CLARK



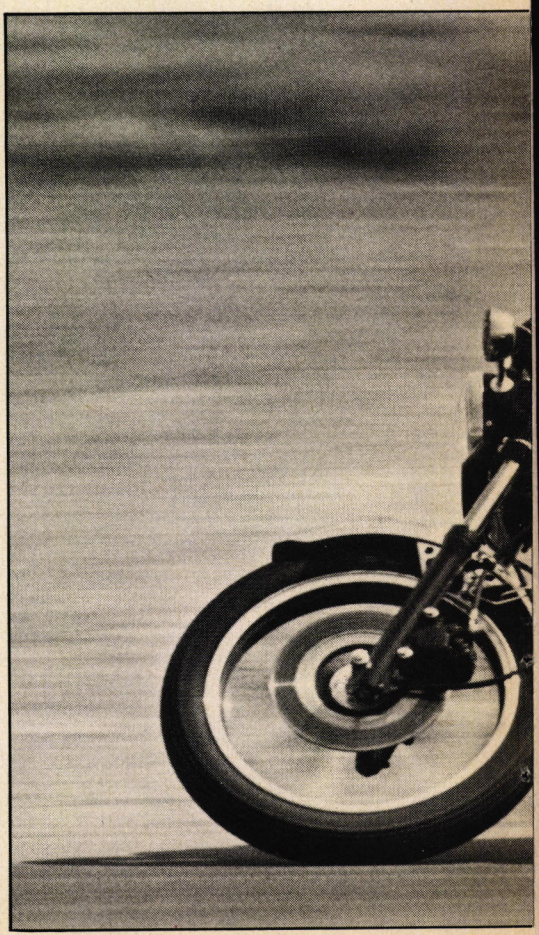
The breaker-point ignition lives on

As resistant to change as the cockroach.



Induction ports are finished by hand

Good detailing builds bigger ponies.



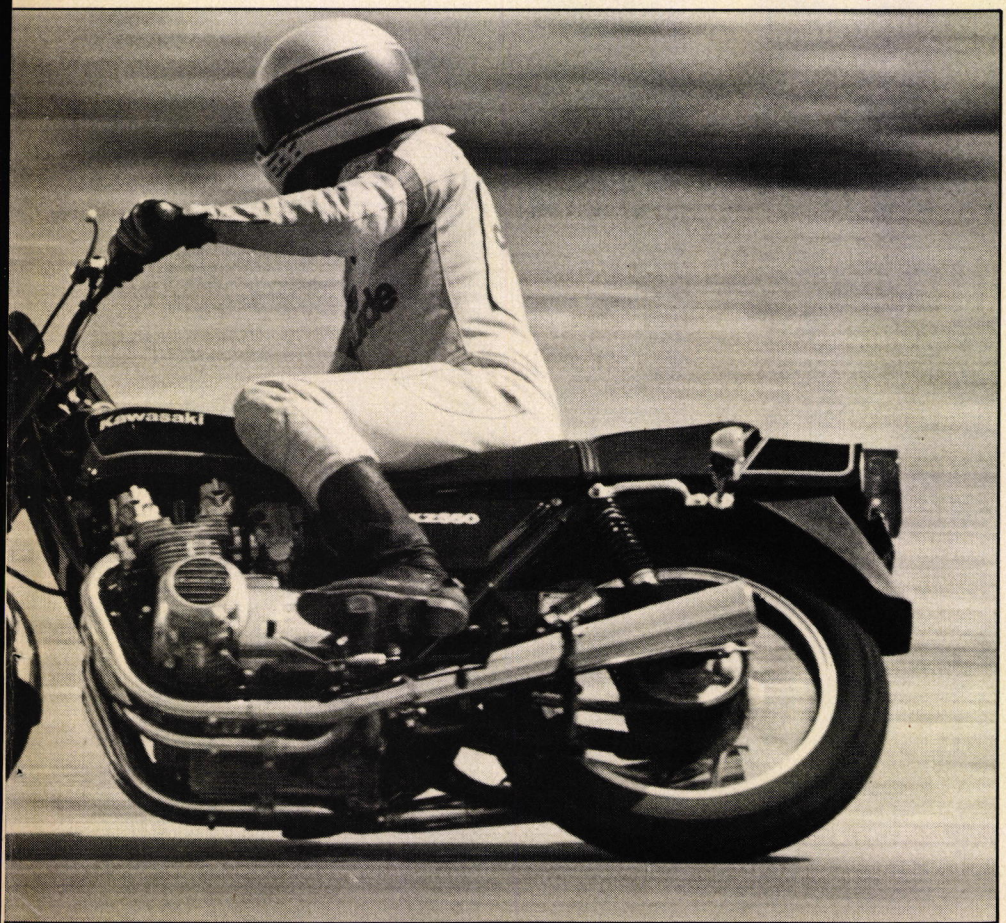
PATRICK BEHAR

vertently selecting second while searching for neutral at stoplights. The gaps between the transmission's ratios are fairly wide compared to a GS550, but the engine pulls each one with F-15 thrust, rocketing to redline in sixth gear as easily as it cruises at 5000 rpm at 60 mph. Gas mileage figures in the mid-40s are common and 50 mpg isn't hard to attain. Even during a full-bore thrash at Willow Springs Raceway, the KayZee's mileage dipped only to 37 mpg. A slight hitch in response at 8000 rpm is the only thing that mars the Kawasaki's otherwise perfect engine.

In the overall search for perfection, the KZ550 succeeds largely because it rides as if it were carved from a single lump of fine steel. Still, there are flaws. For example, Kawasaki likes to make the riding positions of its bikes as compact as possible (while manufacturers like Suzuki try for a full-size feel). But while the 550's riding position is fundamentally good, the thin and narrow seat soon loses its initial stiffness and bottoms out just as the rear shocks go limp—with unfortunate results. Also, the Dunlop K81 rear tire helps the chassis change direction quickly, but it lacks straightline stability, and the easy-steering ribbed front Dunlop doesn't help much. And while the jetfighter whine from the jackshaft and straight-cut gears makes running up and down through the transmission a spine-tingling experience, Dewhurst found the noise attacked his nerve endings like a dentist's drill while on a long freeway cruises.

Seen in perspective, though, these complaints are insignificant when measured against the way the KZ550 carves up everything from mountain roads to boulevard traffic to the Box Stock class at the local racetrack. There have been a lot of motorcycles in the past decade that have held out the promise of a special one-on-one relationship, a symbiosis of man and motorcycle. Those of the Honda CB400F cult in particular always have maintained that there were special rewards secreted within mid-size bikes designed to carry a payload of one man. The Kawasaki KZ550 proves them right, for its responsiveness not only makes riding more fun, it makes you a better rider. Whether you're strafing an apex or cruising harmlessly to work, the KZ makes you feel like a full-blown fighter jock with the right stuff.

If you missed the CB400F or find yourself yearning for the intensity of a one-man motorcycle, the KZ550 is your opportunity to get in on the ground floor of a new cult of high performance. This is your chance. Don't blow it. You know that Steve Canyon wouldn't. •



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Ride Review

• Despite the obvious attempts by Jordan and Dean to explain away the KZ550's almost spooky goodness as simply the result of a favorable power-to-weight ratio, I don't buy it. The reason that the 550 works so well has got to be deeper. The way I figure it, someone at Kawasaki thought he could get away with levering a 750cc engine into the 550's frame.

At least that's the story I'm sticking to, because I can't explain the 550 otherwise. Anytime you decide to up the ante you'd better have someplace in mind to go, because the 550 delivers in rapid fashion. Fortunately, the KZ's precise handling gives you lots of choices on where to turn when the thrust comes up, since the 550 can be aimed and peeled off with no more effort than just thinking about it. All right, Kawasaki, I admit that I'm impressed. But don't think I'm fooled. *—Larry Works*

• I'm not supposed to like the KZ550. It says so right here on page 37 of my All About Motorcycles handbook. It says that because the 550 is little and, at 6-foot-2 and 195 pounds, I'm not, joining us together will make for an insufferable marriage of man and machine.

All of which makes me wonder, then, why riding the 550 became one of this month's high points for me. Maybe it's because the KZ doesn't *act* like a little bike, even though it's the teeniest Four since the late, great Honda CB400F. No, it doesn't ride as well as many bigger bikes, and you're always aware of being on a compact motorcycle. But the 550 is adequately comfortable, reassuringly stable, uncannily agile and does something no 550-class multi *ever* has done: It packs the midrange wallop of something hundreds of cubic centimeters bigger. I ask you, how could I not enjoy a bike like that?
—Paul Dean

• I made my decision about the KZ550 on about the second lap at Willow Springs Raceway. During a high-speed controlled drift, the repli-K81 rear tire broke loose. Before things went afoul, though, the bike hooked up again, and continued through the sweeping fifth-gear turn as though nothing had happened to disrupt its balance. It's not just a one-turn bike, either, the entire nine-turn track was subdued by the four-cylinder mini-superbike's predictable steering and handling. I count the KZ550 as one of the best-handling box stockers I've ever ridden.

Beyond high-speed cornering, though, the KZ550 is ideal for real-world retrieval of odds and ends from the corner store or for packing double on a leisurely weekend ride. With the 550, Kawasaki has proven Abe Lincoln wrong; you can please all the people all the time. *—Dain Gingerelli*

Kawasaki KZ550

SPECIFICATIONS:

IMPORTER: Kawasaki Motor Corporation
2009 East Edinger Avenue
Santa Ana, California 92711

CATEGORY: street

SUGGESTED RETAIL PRICE: $2179

ENGINE

Type	four-stroke transverse vertical four
Valve arrangement	double overhead cams, two valves per cylinder
Bore and stroke	58.0mm x 54.4mm
Displacement	553.8cc
Compression ratio	9.5:1
Carburetion	four 22mm TK slide/needle
Air filter	disposable paper element
Lubrication	wet sump
Starting system	electric only
Ignition	battery/dual-point/dual-coil
Charging system	12-volt; alternator, voltage regulator, rectifier

DRIVETRAIN

Primary drive type	straight-cut gears
Primary drive ratio	2.94:1
Clutch	wet, multi-plate
Final drive type	#530 chain (⅝-in. pitch, ⅜-in. width)
Final drive ratio	16/40 : 2.50:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.57	18.89	4.0
II	1.78	13.08	5.8
III	1.38	10.14	7.4
IV	1.13	8.31	9.0
V	0.96	7.06	10.7
VI	0.85	6.25	12.1

SUSPENSION/WHEEL TRAVEL, IN.

Front	36mm stanchion tube diameter/6.8 in. (173mm)
Rear	5-way adjustable spring preload/4.3 in. (109mm)

BRAKES

Front	single action hydraulic caliper, 9.8-in. (250mm) disc
Rear	drum, single-leading shoe, rod-operated

TIRES

Front	3.25H19 Dunlop Gold Seal F7
Rear	3.75H18 Dunlop Road Master TT100

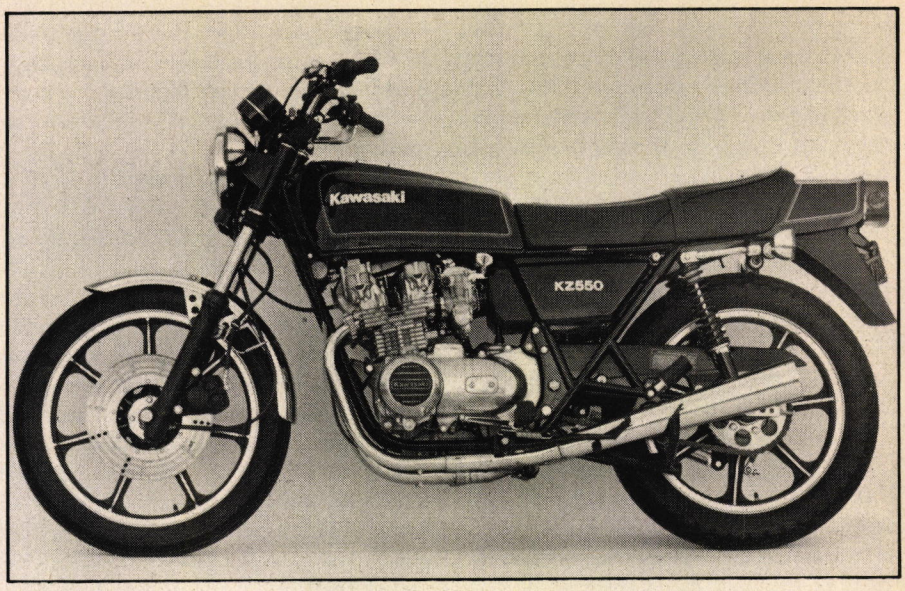
DIMENSIONS AND CAPACITIES

Weight	426 lbs. (193kg)
Weight distribution	46.9% front, 53.1% rear
Gross vehicle weight rating	793 lbs. (360 kg)
Wheelbase	54.6 in. to 56.4 in. (148cm)
Seat height	31.8 in. (808mm)
Handlebar width	28.8 in. (732mm)
Footpeg height	12.8 in. (325mm)
Ground clearance	6.0 in. (152mm), at header/muffler junction
Steering head angle	26 degrees from vertical
Front wheel trail	3.85 in. (98mm)
Frame	mild steel, double front downtubes
Oil capacity	3.2 qt. (3.0/)
Fuel tank	steel, 8.3 gal. (14.5/), including 0.7 gal. (2.8/) reserve
Instrumentation	speedometer, odometer, tripmeter resettable to zero, tachometer

PERFORMANCE

Fuel consumption	37 to 51 mpg (16 to 22 km/l)
Range, maximum	141 to 192 miles (232 to 319 km)
Range, reserve only	26 to 36 miles (45 to 62 km)
Speedometer error, 30 mph indicated	31 mph actual
Speedometer error, 60 mph indicated	60 mph actual
Best ¼-mile acceleration	13.45 sec., 97.1mph (156 kph)
Top speed (calculated)	103 mph (166 kph)
Stopping distance from 30 mph	40 ft. (12.2m)
Stopping distance from 60 mph	150 ft. (45.7m)

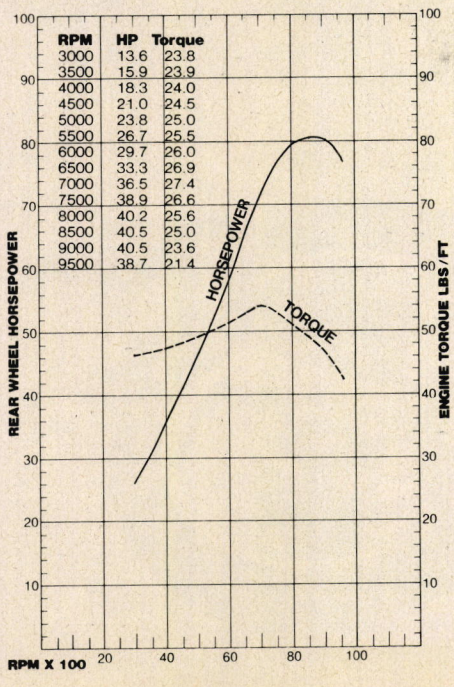
All weights and measurements are taken with machine unladen and fuel tank empty.

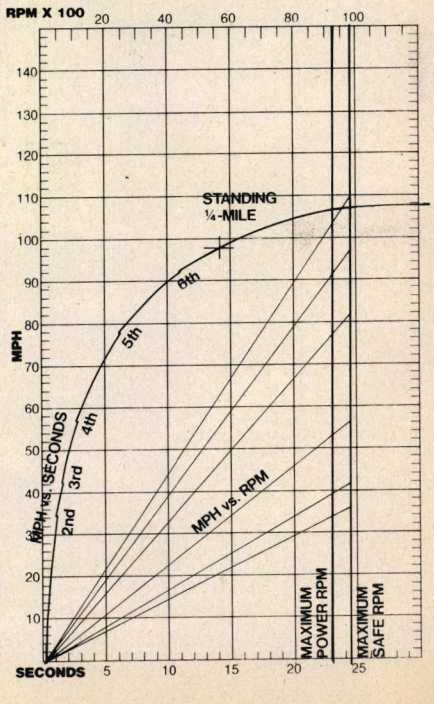


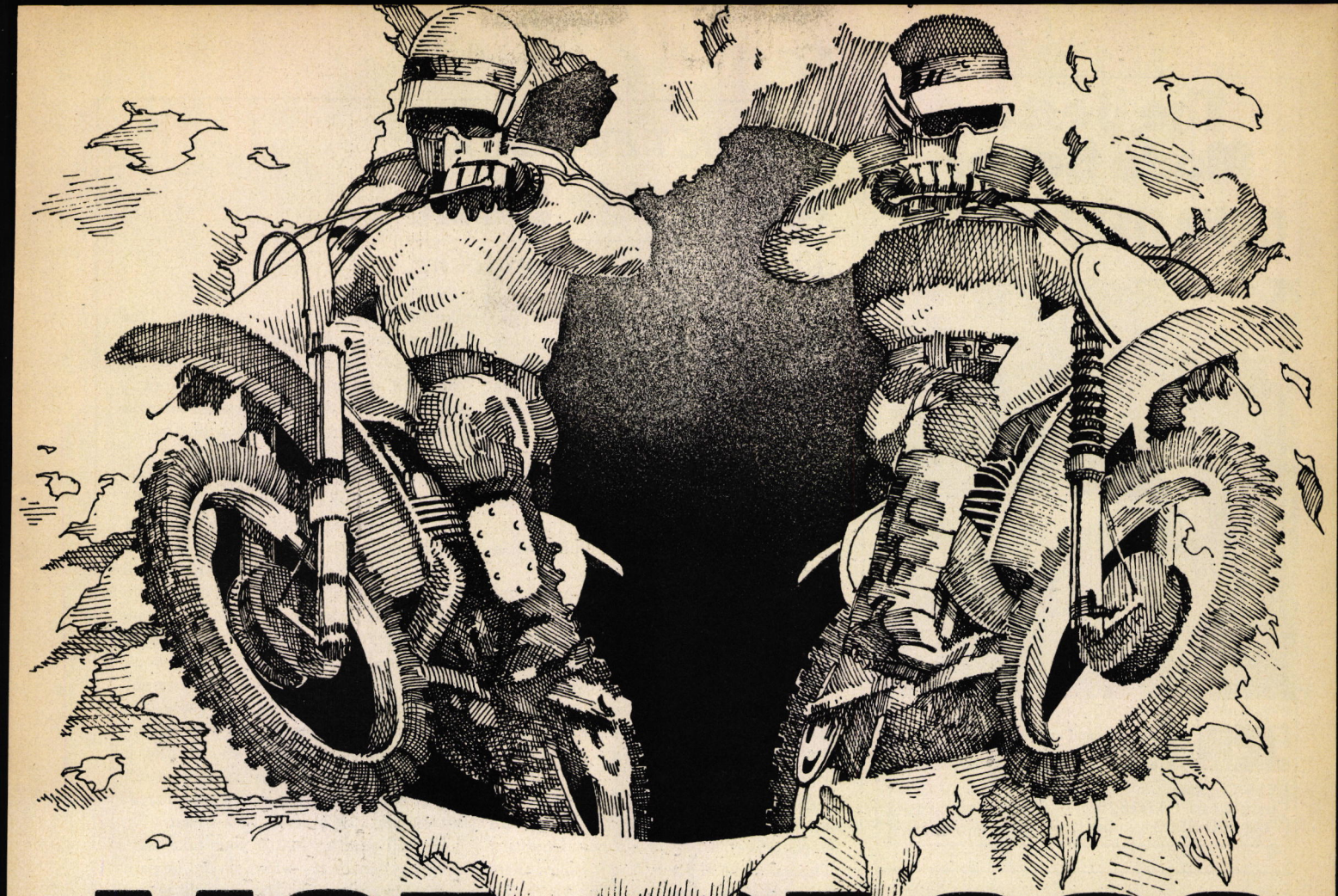
COMPARATIVE TEST DATA:

Make	Quarter-Mile, sec/mph	Top Speed, mph	Weight, lbs	Stopping Distance From 60mph, ft.
Kawasaki KZ550	13.45/97.1	103	426	150
Honda CX500 Custom	14.12/92.9	102	468	146
Kawasaki KZ650 Custom	13.16/100.2	116	483	125
Honda CB650	13.29/99.9	113	447	131
Honda CB400T Hawk	14.37/88.6	100	391	139
Suzuki GS450ST	14.09/92.5	100	397	127

PERFORMANCE:







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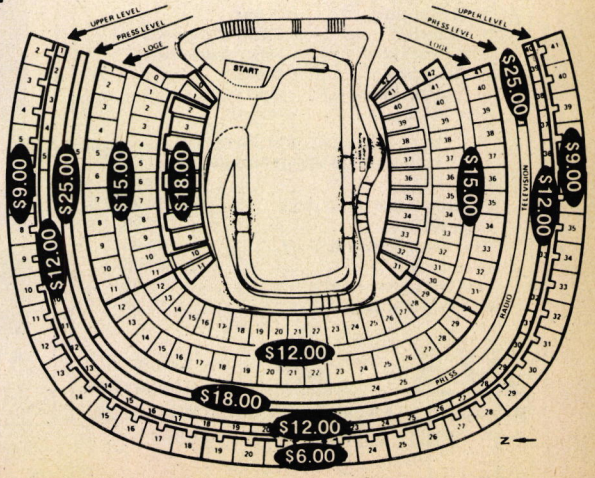

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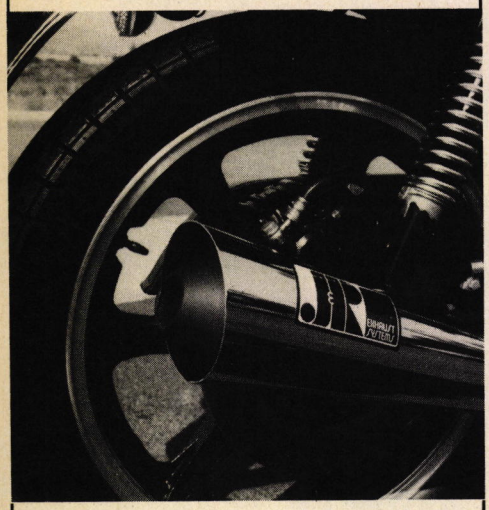

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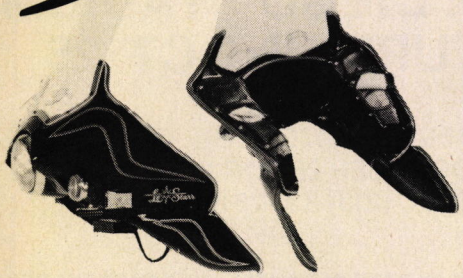

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PRODUCT EVALUATION:

Allyn Air Seat

Air bags come to motorcycling.

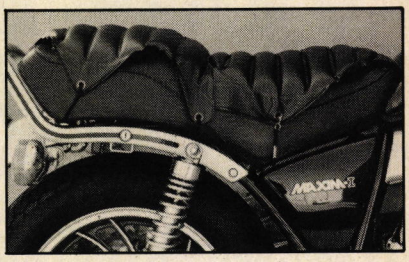
• No motorcycle ever rolled off of an assembly line perfectly designed. There are always built-in glitches that nag away at an otherwise satisfying ride. With the Yamaha XJ650 Maxim I, most of those faults boiled down to a stiff rear suspension and a cruelly thin, hard seat. What they combined to form was, quite simply, a pain. But rather than accept the jounced kidneys and splinterspine that the Yamaha served up, we decided to remedy the problem. Which led, in turn, to the Allyn Air Seat.

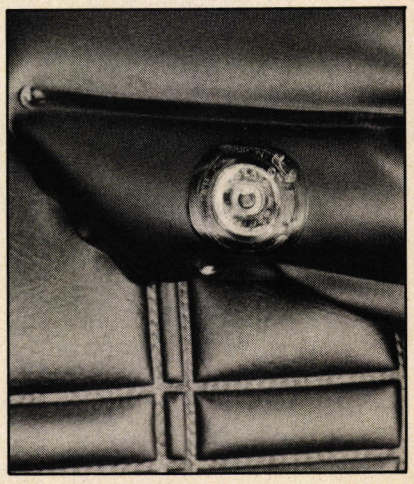
I'll admit to a little skepticism as I unboxed the Air Seat. Oh, the vinyl seemed sturdy enough and a trial blow-up showed that the seat would hold air, but I wasn't sure the design would. I've always been naturally wary of one-size-fits-all accessories, and the Air Seat looked as if the attempt to fit most bikes resulted in a device that wouldn't fit many very well.

After determining that the Air Seat would never lie flat on the Yamaha's stepped seat, I bolted my best Doubting Thomas smile in place. And it stayed there until I read the directions. The Air Seat is made up of two cushions, each with its own filler. They join at the space between rider and passenger. And to fit stepped saddles like the XJ650's, the seat works better if the two cushions are cut apart. Once separated, it was only a matter of seconds to inflate each half and only a few minutes work to stretch the included elastic bands under the seat base to where they hook on the opposite side. Instant whoopee cushion.

A ride on the newly equipped balloon-bike wiped off the rest of my skeptic's leer. Not only did the Air Seat bring the buckboard 650 up to near Suzuki's mastery of plush seating, it deadened vibration as well. Further, it took the sting out of the jolts working their way up from the oversprung rear end. With the Air Seat tethered in place, I rode in comfort over what would have been plain painful on the stock 650, only bottoming the buttblimp twice. And that could have been avoided with a dollop more judicious lungpower when I filled it. The Yamaha suddenly lost its garage-wall-flower status, and to a man *Cycle Guide's* nit-picking staff praised the Air Seat.

So will you, at least if your bike has a deficient seat on it—which should be painfully obvious by now. The cure will set you back $30, and you can get it from Allyn Air Seat, 7 Sunset Street, Lenox, Massachusetts 01240. —*Larry Works*





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—Rider Magazine, Dec. '79

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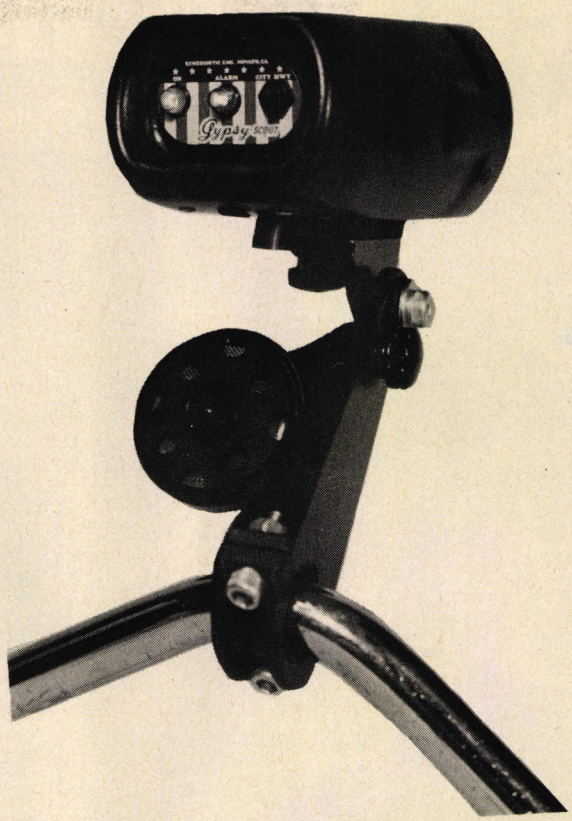

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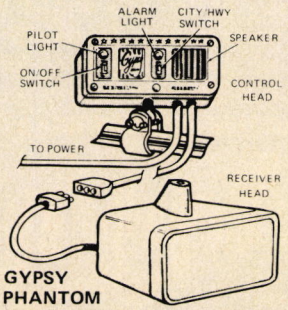

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Cycle Guide's True Tales of Race Courses, Dark Horses and Machines at Speed

EDITED BY DAIN GINGERELLI

PHOTOGRAPHY: TOM RILES

The Stadiumcross Technique

A battle of one-liners.

• Stadiumcross and conventional motocross might have been conceived on different planets, so different are they. Outdoor tracks challenge bike and rider to work together and select the fastest route around a racing track. Stadium battles emphasize motorcycle martial arts, as the riders attempt to control their bikes while riding a narrow pathway over an obstacle course. In many ways, outdoor motocross tracks are built to please the bike-and-rider combination, while indoor stadium tracks are built to satisfy the spectator.

Maybe you think this crucial difference implies that stadium racing is a lark for the fastest riders instead of a true test of their racing skills. You're wrong. Although the show is different, stadiumcross still follows the same plot outline. And there's only one winner. So real racing takes place on the man-made tracks just like the outdoor ones, and because they are tight and ridden with obstacles, and because the 20-minute motos allow little time for race-tactic strategy, stadiumcross requires its own set of riding techniques.

All riders agree that the start is the most important element of stadiumcross racing. A poor scratch at the starting gate leaves you with the Herculean task of passing other riders in a short amount of time on a track that offers only one safe route through the obstacles ahead. Comments Kent Howerton, "When you wait on the line for the start, you think about how much you need a good one because there is no time to come from behind. You almost need to be one of the first five riders into Turn One to win the race. I've had poor starts before and ridden so hard I was much faster than the riders I passed—and yet I finished fifth or so."

Strategy is ordinarily the racer's best teammate, but to pass another rider on a stadium track requires aggressiveness rather than team play. One method of passing involves stuffing a wheel under a competitor's bike and forcing him to yield. It's risky, and sometimes eliminates both riders when their tires bump. But the only other alternative is a full-scale block pass where you get inside a rider going into a corner and prevent him from carving for the

Continued

apex until after you do. Explains Yamaha rider Rex Staten, "The tracks are usually too narrow and there aren't enough lines through the turns. Normally, on a natural course I like to pass going into a turn. But on the indoor tracks, you can't because the other rider will cut you off or take you out. Sometimes the only way to get around is to bump them off their line." Adds Howerton, "Everyone does a lot of block-passing, but I do most of my overtaking by waiting for the rider ahead to make a mistake. Simply, it's hard to pass cleanly."

Usually it doesn't take long for someone to make a mistake because stadiumcross tracks are nothing more than closed-circuit obstacle courses. Kawasaki's newest factory rider, Goat Breker, says, "Stadium tracks are definitely harder to ride. They have things an ordinary rider couldn't even *ride* on, much less race on. Deep grooves and ruts, double jumps and drop-offs. Some are really dangerous. I know spectators like the jumps, but they get a lip on the top after a while and can make you endo too easily. Sometimes one will have only one line, and if a rider falls and you can't see him, you land right on top of him."

Adding to the rider's problems is the added tension of the stadium events because of the short motos and the added danger of the constant passing that's necessary. In outdoor racing, you can afford to look ahead, plan your moves and watch the competition carefully. The reverse is true for the stadiumcross rider,

PATRICK BEHAR

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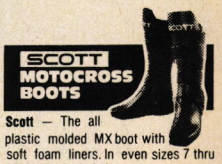

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for a rider in an advantageous position can easily hold off challenges for 20 minutes, thanks to the single-file riding that's necessary.

Brian Myerscough learned a lesson about what it's like to lead the Indian file at this years' New Orleans event. He appeared to have the race well in control because his teammate Howerton wasn't substantially faster any place on the track. But Howerton made a sudden thrust that startled Myerscough, who slipped over a berm and relinquished the lead and the race. Remarks Howerton, "Brian had the speed to win, but it's tough to lead a big race when you know there are 24 hard-charging, hungry riders behind, nipping at your rear tire. Experience helps under those conditions. I just think Brian wasn't mentally prepared to lead."

Even if you're mentally prepared, as Kawasaki's Gaylon Mosier is, just one mistake is enough to take a stadiumcross win away from you. Mosier nearly won the Superbowl of Motocross in July 1979, but under pressure from Mark Barnett and Mike Bell, he bobbled. Barnett shot past. Then as Mosier lost his riding rhythm and composure, Bell also slipped past. Mosier's teammate Jeff Ward sums it up best by saying, "No matter how fast you ride supercross, there's always someone right behind you."

The fatigue factor of this kind of racing compounds the problem. Although the races are short, the tracks are brutal and the competition is fierce, which means there's no place on the

On stage with Broadway Bell

They say the neon lights are bright.

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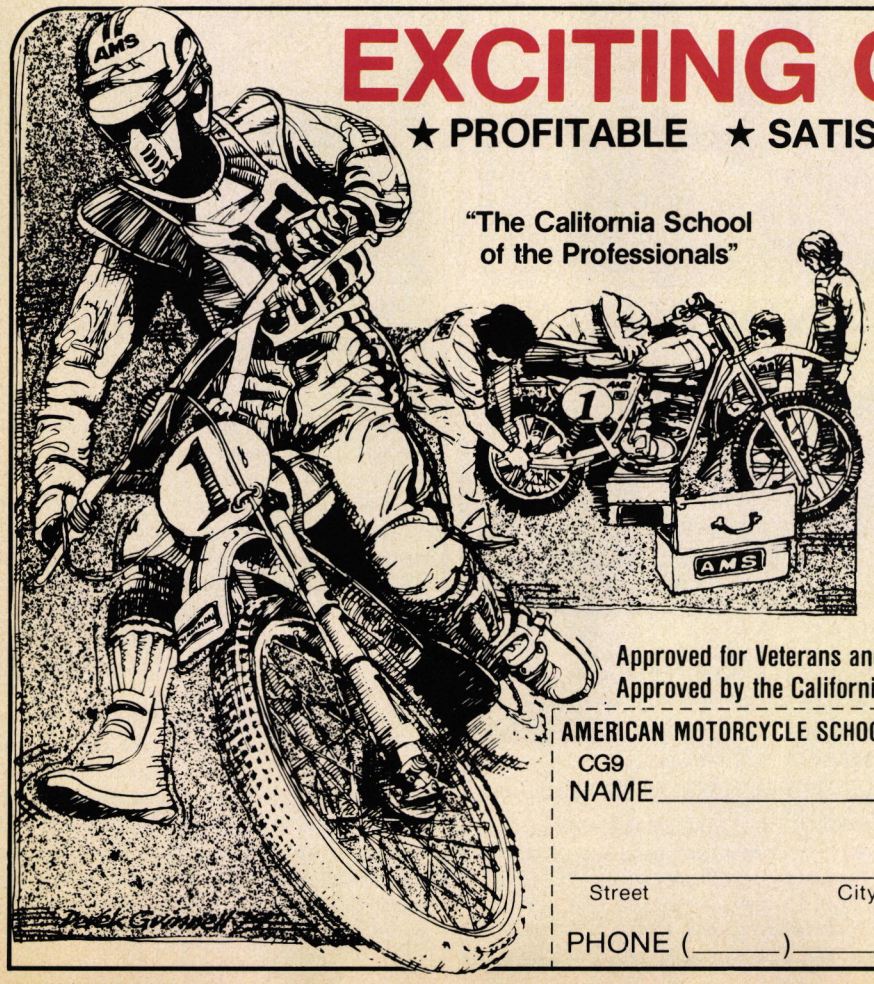

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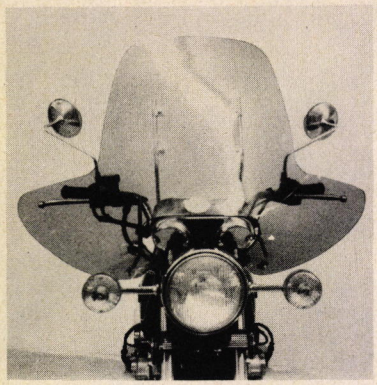

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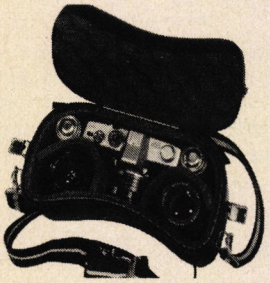

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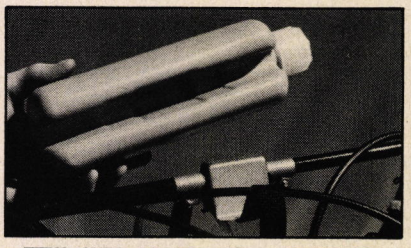

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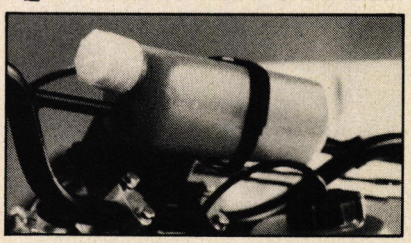

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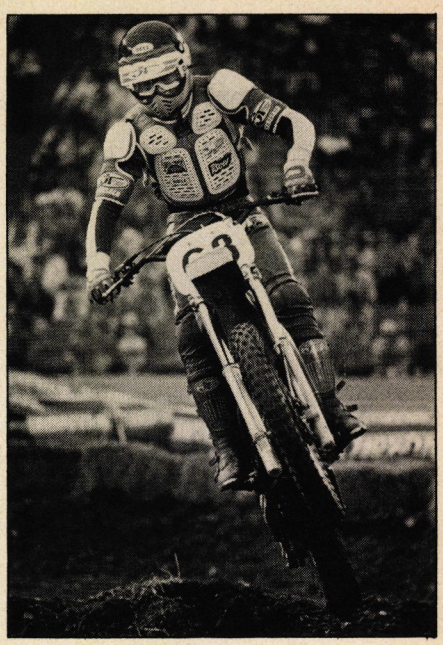
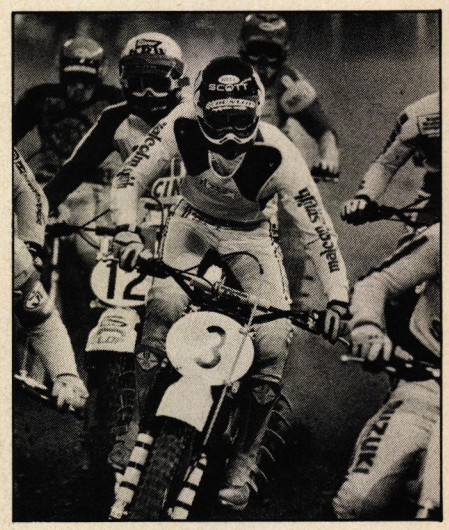


Chuck Sun in the air

High noon on the stadium whoops.



Stadiumcross Turn One log-jam

Kiss it off if you're not in top five.

track where you can relax. Intense concentration is required for the whole distance, not just the first 10 minutes and the last 10 minutes as with some outdoor races. Says Honda rider Chuck Sun, "You only race for 20 minutes, but you have to be in great physical *and* mental shape for those 20 minutes. You have to find the right rhythm to push hard, yet stay relaxed at the same time and not tighten up." Agrees Myerscough, "It depends on the track, but sometimes I get more tired in a 20-minute stadium race than in a National."

The thing that really counts in stadiumcross isn't so much riding skills, but the ability to try hard. A winner's character—desire, aggressiveness and courage—is the thing that matters. So the lasting difference between motocross and stadiumcross is this: A winning National rider may be the best motocross racer, but it takes extra grit to sparkle at stadiumcross.

—Terry Whytal

MOTOCROSS:

Stadiumcross Track Building

Fitting a square track into a round stadium.

• 'Baseball diamonds make lousy motocross tracks. That is, they do until more than 8000 cubic yards of dirt have been piled on top of the playing field. Then it's just a matter of grading and grooming the earthen mounds to simulate a motocross track. Two other prerequisites are necessary before the House That Ruth Built can become the Playground Where Howerton Frolics, though : planning and money.

Pace Management and Stadium Motorsports are the two major U.S. stadiumcross promoters. Both stage once-a-year motocross events in stadia that were originally designed to challenge the power of home-run hitters or provide quarterbacks with a battlefield. Motocross racing was never envisioned by the architects that designed such sports arenas.

It's during baseball and football seasons, though, that Pace and Stadium Motorsports plan their tracks. Before the course is actually laid out, a basic "field plan" is examined in order to locate underground wiring and plumbing. As Joe McWilliams of Pace Management says of the process, "You have to be sure you know where wires and plumbing are. At Oakland we have to make sure we don't dig down into the ground because the water sprinklers are just below the surface."

The course is designed using the sprinklers and underground wiring as boundary and turn markers. The remainder of the planning stage consists of synchronizing dirt delivery with the departure of the home team tennants. McWilliams reports that this year's Seattle event was nearly called off: "We had to wait for the Super Sonics basketball team to finish a series before we could start work. On top of that, the weather was unusually cold, and the city had a temporary weight limit each truck could carry, so the street pavement wouldn't crack."

When systems are Go for dirt delivery, the course itself is laid out using white chalk, similar to that used to mark off a football field. Then the laborious truck-by-truck task of hauling the dirt begins. And at about $7 per cubic yard, it's not cheap. As the dirt's brought in, bulldozers work like ants getting ready for the queen, until the dirt is shuffled between the chalk marks and fluffed up in spots to mark jumps and whoop-de-dos.

Then the stadiumcross maestros stand back and soon the track is infested with red, green and yellow motorcycles that sound like bumblebees when you're in the stands. All that's missing are spectators in the stands and concessionaires in the aisles. Mix them with qualifying heats and a main event below, and presto, instant motocross. —*Terry Whytal*

Continued

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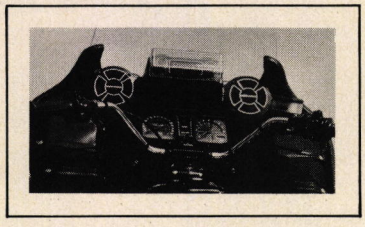

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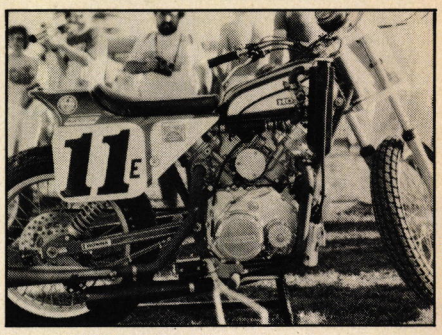


JERRY SMITH

Honda's 50hp Class C flattracker

Following the leader.

• Flattrack racing technology today rarely stretches beyond new tire tread patterns and handlebar bends. Class C has been on autopilot for some time, cruising along with the Harley-Davidson XR750. Yet there are signs of a change that could well revolutionize oval racing in America.

One such proposed change is a 500cc displacement limit which, if rumors are to be believed, already has Harley working on a half-liter V-twin. But while H-D works in secret, Honda has come right out into the open with a heavy commitment to dirttrack racing. With little pomp or ceremony, the Big H is fielding an exciting, if not winning, V-twin racer based on its water-cooled CX500 street engine.

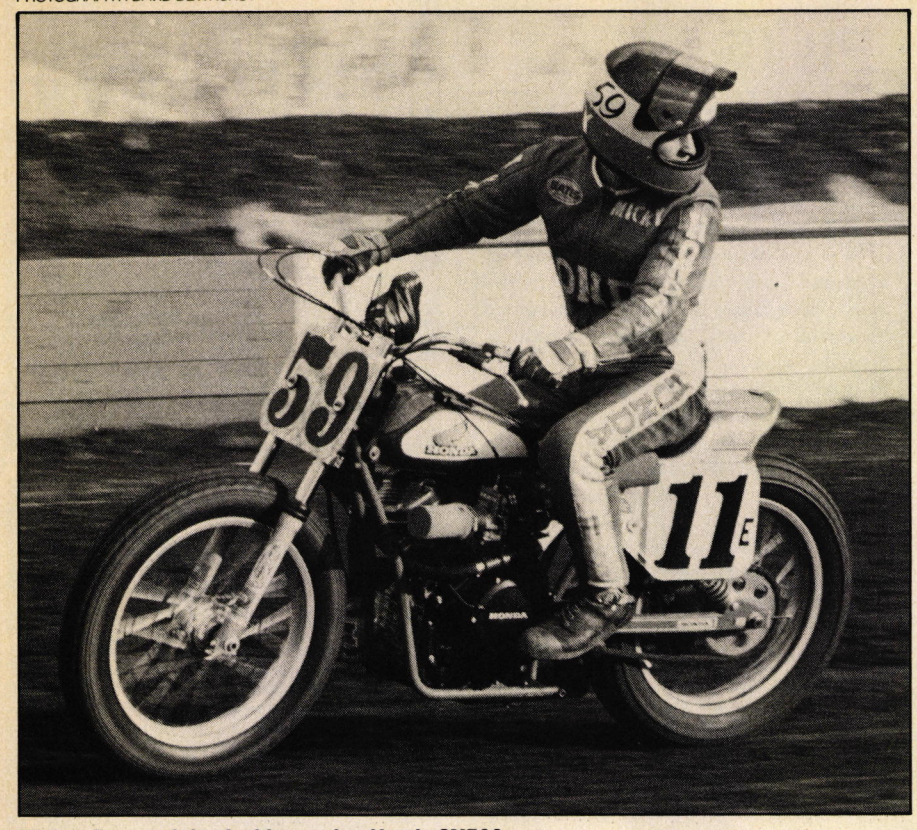
Credit for the original idea must go not to Honda R&D, but to Des Moines, Iowa engineer Mike Thomas. He saw the possibilities of the V-twin Honda, but first he had to overcome the problems of adapting the power take-off to chain drive. The job was not simple, yet when Honda engineers saw the finished product, they took an immediate interest. Then a high-level decision was made to make an assault on AMA Grand National racing with the engine, and Honda's dirttrack bike builder Jerry Griffith was called in.

Griffith has plenty of experience building the

Stock engine, except for cams and carbs

Even the tachometer is OEM.

PHOTOGRAPHY: DAVID DEWHURST



Mickey Faye and the double-number Honda CX500

"No, Mickey, don't look back, the Harleys are in front of you!"

Honda racers that use the XR500 single for power, but the V-twin was a different matter. After burning a few gallons of midnight oil the first bike was completed. Unfortunately, the Honda had an unimpressive debut against the mighty 750 Harleys at the Sacramento and San Jose Miles where even the XR500 Hondas proved faster than the liquid-cooled twins.

But as Honda spokesmen explain, the CX500 is just the beginning of a long development program. The present engine is virtually bone-stock. Only a Megacycle cam, Lectron carbs and a CDI ignition boost power. And in this form, the engine spins out about 50 horsepower at 9500 rpm. Still, Honda is confident that 70 is not an unreasonable figure to aim for, which could make the bike competitive with the 85-hp Harleys.

While that sort of power may not send shivers up the spines of Harley tuners, it does show that Honda is committed to building a serious dirttrack racer. Indeed, the project is in many ways a public relations exercise meant to convince the AMA that Honda is prepared for a long-term effort—valuable ammunition for Honda's attempt to lower the displacement limit to 500cc. So while the CX500 engine might be a little short of power right now, Honda will be more than ready if the 500cc limit is imposed on flattrack racing. Then Harley will be the one forced to start from scratch and join Honda in exploring flattrack's technological frontiers. *—David Dewhurst*

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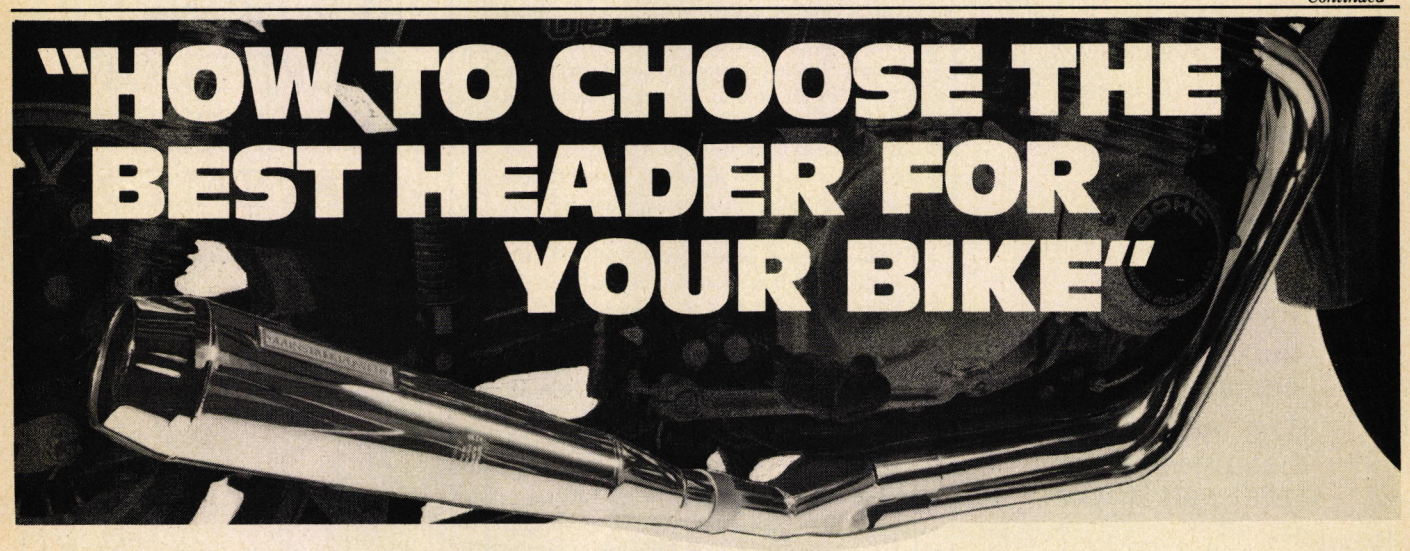

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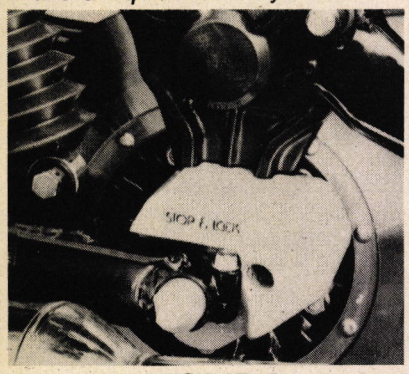

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Pit Bits

• A close look at Yamaha's YZR500 road-racing fork and lightweight brake caliper hints that an anti-dive suspension is on the way. Roberts hasn't had much difficulty beating the factory Suzukis this year, but when and if the braking battle unfolds, Yamaha wants **King Kenny** to be prepared. Meanwhile, Suzuki is trying everything possible, including anti-dive front and rear, to catch the flying yellow and black Yamaha. The current RG500 factory team bikes have a linkage-activated anti-dive system on the swingarm to keep the bikes as stable as possible entering corners under hard braking.

• At the other end of the turns, the battle appears to be in Yamaha's favor. According to factory claims, the Yamaha weighs about 15 pounds less than the square-four Suzukis. Since both claim about **110 bhp,** the advantage in power-to-weight ratio rests in the Yamaha pits.

• All this talk about factory anti-dives and acceleration doesn't make **TZ500** customers happy. Reports filtering in from European and U.S. riders indicate some of Kenny's world championship-winning horsepower didn't make the production line. Almost all the production-mounted riders, including 1979 Daytona winner Dale Singleton, claim the bikes are down on power. Singleton went on to add that his is, **"slower than hell."** But Kel Carruthers, who is as responsible for developing Roberts' bike as Roberts himself, contends they are all wrong. He argues that the TZ500s are essentially the same as what KR had last year, with the exception of a mechanically actuated power-valve in place of the costly black box. Even so, the Battle of Top Speed has been won so far by Suzuki/GB-mounted Randy Mamola. The young American went through the lights at the French GP at Paul Ricard doing **176 mph.** Roberts was two mph down.

• While bench-racing about speed, a **125cc** Motobecane motored down the same Paul Ricard straight at **135 mph,** while Toni Mang's Kawasaki 250 in-line twin pushed through at 158 mph.

• Balance, not speed, is the criteria for winning trials. And the trials world turned upside down for the United Kingdom at the Scottish Six Days this year. For the first time since the inaugural event in **1909,** a non-Britisher won, that being Finland's three-time trials world champ, Yrjo Vesterinen.

• In further trials news, American female trials rider, Debbie Evans Leavitt has taken a temporary leave of absence from competition. Reason for withdrawl: **pregnancy.**

• Don Vesco, owner of the motorcycle land speed record, doesn't plan to by-pass this

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year's Salt Week. Despite a crashing and destroying his KZ1000-powered streamliner at El Mirage Dry Lake this summer, he intends to continue at Bonneville with a dual-engined streamliner using **KZ1300** engines. Rumor has it that the six-cylinder engines will be **turbocharged** as planned since 1978 in order to produce the necessary horsepower to propel the cigar-shaped projectile beyond the **400-mph** plateau.

• Skip Askland wasn't so lucky after a crash this year. His first season of GP racing ended in frustration and a shattered kneecap at the Spanish GP. After squabbling with the race organizers over the acceptance of his entry, he had limited practice time to sort out his Zago-sponsored RG500. The ride ended on lap two of the race when he high-sided and **landed on both knees.** Skipper reports he'll make a decision whether or not to continue racing this winter, depending on whether he can line up the same sort of European deal he had this year. If not, his tentative plans call for running select AMA Winston Pro Series Nationals, because "It's too expensive to compete in the entire Winston Pro Series. There's probably only five or six guys making money doing it. It's different in Europe: a racer can earn a decent living if he has the right program, such as I had with Zago."

• Another sidelined racer is three-time AMA Grand National champ, Jay Springsteen. According to Harley team manager Dick O'Brien, **The Springer** continues to have recurrent intestinal problems that remain a mystery to every doctor who examines him. O'Brien says the medical suspension is indefinite, but adds there will be no replacement for Springsteen. His Bill Werner-tuned XR750 will remain idle, to be raced only by Springsteen when he's healthy and ready to race.

• Prepare for the return of Bob "Hurricane" Hannah. Yamaha's race director, Ken Clark, is bubbling with enthusiasm about Hannah's recovery this past summer. Clark indicates that Hannah will be ready to race at the opening Trans-USA event in Lexington, Ohio. Says Clark: "He's about ready. He's been working out and running every day. It's not a question of whether he'll win, but a **question of by how much."**

• Even if the Hurricane, after a full year's absence isn't as stormy on motocross tracks as before, he'll have things a little easier since Yamaha added a power-valve to the 250-class bikes. According to Clark, the 250s have become too pipey, because the horsepower race has made them so. The power-valve doesn't increase power—just **broadens** the powerband. Although not confirmed by Yamaha, you can probably count on a mechanically operated power-valve system on the production YZ250s for next season. •

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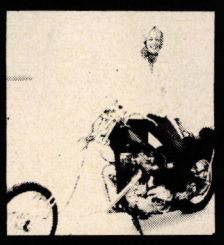

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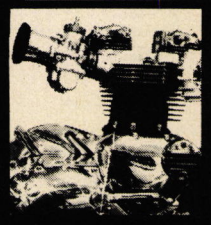

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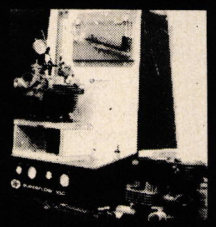

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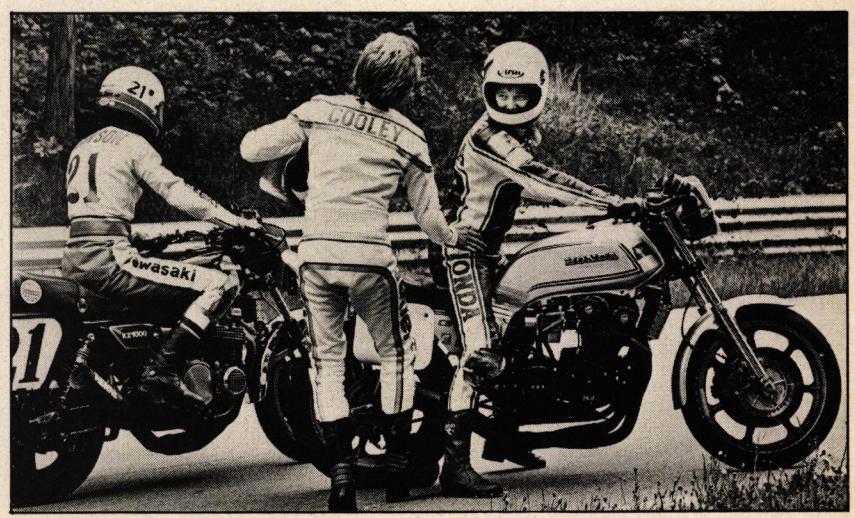
Cooley and the Yoshimura Suzuki—in front and feeling free

Breaking the Spencer-jinx—and the two-stroke hammerlock on AMA roadracing.

• By late June, 1979 AMA Superbike champ Wes Cooley had grown sick and tired of hearing about Freddie Spencer and his factory Honda CB750F-replica. Cooley's troubles with Spencer began at Daytona, when Fast Freddie caught him napping and snatched a heat race victory from the Vetter-sponsored Suzuki rider. Then in the race itself, Spencer rode Cooley's fender until the GS1000S's crank broke under the strain. Cooley seemed to regain his edge over Spencer at the Ontario Six Hour, qualifying four seconds in front of the Honda. But Spencer passed him on lap three and got the win. Then Cooley laid the Suzuki down trying to lap a slower rider late in the race. Spencer got the win while Cooley got nothing.

Cooley might have thought he'd licked his Spencer jinx at Elkhart Lake, leading the Honda rider on the last lap of the Superbike event. But then the Suzuki's gas tank ran dry just a half-mile from the finish line. Spencer, whose bike had begun sputtering as the last lap began, rode around Cooley to take the lead when it mattered. All Cooley could do was coast to a stop, pounding the gas tank with his fist in frustration, pebbles crunching under his Goodyear slicks as the bike coasted to a stop. He



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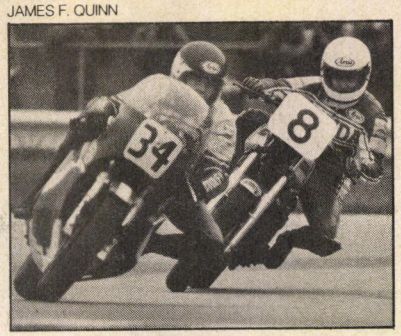


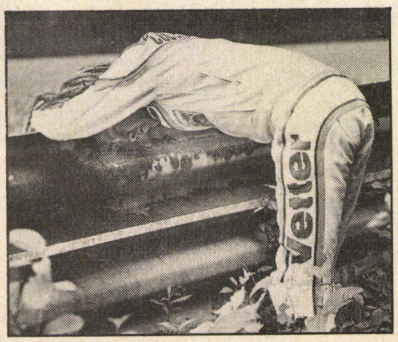
It's the Fast Freddie, Wes Cooley Show

At least they see Arai to Arai.

leaned against a nearby stretch of Armco to regain his composure until his nemesis stopped by on the cool-off lap to give him a ride back to the pits.

Later that day, however, Cooley and Spencer were at it again in the Formula 1 race. This time Cooley reigned unchallenged on his Bel Ray-sponsored Formula 1 Suzuki while Spencer undergeared the Honda Superbike he had chosen for the race and dropped out early. No two-strokes threatened Cooley, either. With his win, Cooley's Suzuki GS1000-powered racer made AMA history, becoming the first four-stroke bike to win a National since Cal Rayborn at Laguna Seca in 1972. Ironically, it was also a Suzuki that became the first two-stroke to win an AMA National back in 1969 when Art "The Dart" Baumann paced his Titan 500 Twin across the line at Sears Point in front of a flock of factory Triumphs, BSAs and Harleys.

Cooley's win streak didn't last long, though, for the combination of a flat tire and Rich Schlachter's TZ750 frustrated his effort at Loudon two weeks after Elkhart Lake. Spencer did his bit to remind Cooley of his Honda jinx, too. There wasn't much Cooley could do to catch Freddie after the silver Honda took the lead on the first lap of the Superbike event. Commented Cooley when it was all over, "You can't let Freddie get away from you in the first two or three laps. That's the key to his race." Still, at least Cooley made it back to the pits without having to hitchhike another ride with his 1980 racing partner. —*Dain Gingerelli*



Cooley at Elkhart Lake

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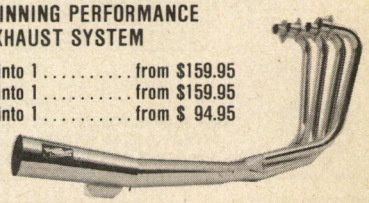
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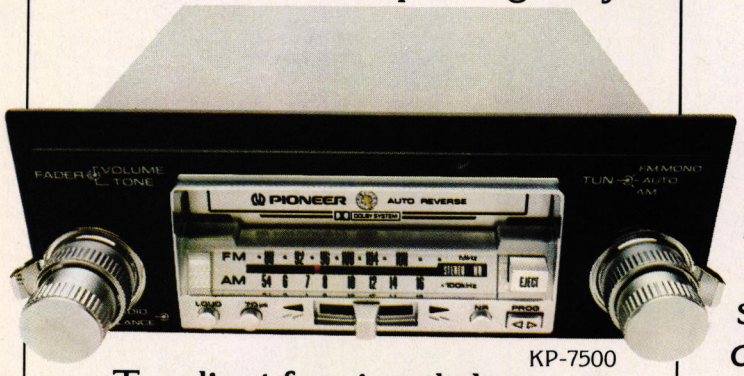

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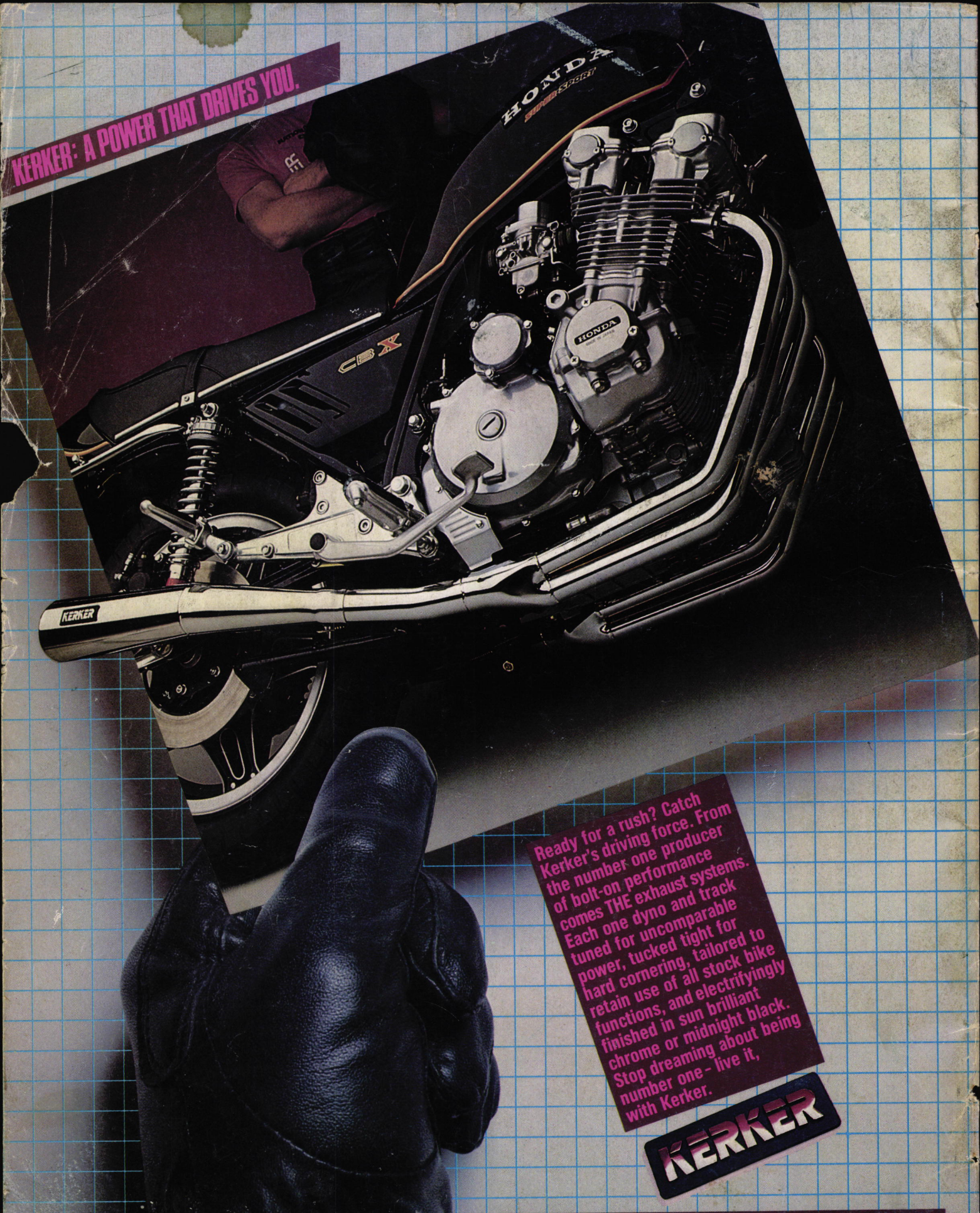

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